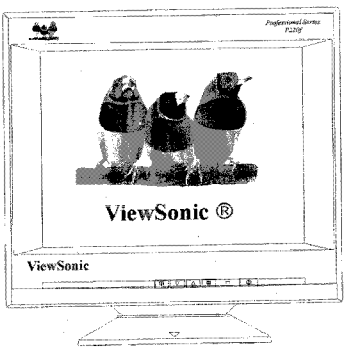
VIDE-V27601

Service Manual

ViewSonic P220f

Model No.VCDTS21692-1

22" Digital Controlled Color Monitor (20" viewable) Professional Series



P220f_SM_140 - Rev. 1 - September, 2000

ViewSonic® 381 Brea Canyon Road, Walnut, California 91789 USA – (800) 888-8583

Copyright

Copyright © 2000 by ViewSonic Corporation. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, without the prior written permission of ViewSonic Corporation.

Disclaimer

ViewSonic makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranty of merchantability or fitness for any particular purpose. Further, ViewSonic reserves the right to revise this publication and to make changes from time to time in the contents hereof without obligation of ViewSonic to notify any person of such revision or changes.

Trademarks

ViewSonic is a registered trademark of ViewSonic Corporation.
All other trademarks used within this document are the property of their respective owners.

Revision History

Revision	Date	Description Of Changes	Approval
1.0	10/21/00	Initial Issue – DCN852	T. Sears

TABLE OF CONTENTS

TRADEMARKS AND REGISTRATIONS IV

SAFETY PRECAUTIONS V

1. FEATURES ..... 1-1 ~ 1-2

2. SPECIFICATIONS 2-1

3. CONTROLS ..... 3-1 ~ 3-5

4. BLOCK DIAGRAM 4-1

5. WAVEFORMS ..... 5-1 ~ 5-3

6. THEORY OF OPEREATION ..... 6-1 ~6-18

7. TROUBLESHOOTING ..... 7-1 ~ 7-10

8. ADJUSTMENTS ..... 8-1 ~ 8-3

9. SPARE PARTS LIST 9-1

10. CRITICAL PARTS LIST 10-1

11. COMPLETE PARTS LIST ..... 11-1 ~ 11-33

12. SCHEMATIC DIAGRAMS ..... 12-1 ~ 12-12

13. PCB LAYOUT DRAWINGS ..... 13-1 ~ 13-9

14. EXPLODED PARTS VIEW AND PARTS LIST ..... 14-1 ~ 14-3

IBM and IBM products are registered trademarks of International Business Machines Corporation.

Macintosh and Apple products are registered trademarks of Apple Computer, Inc.

VESA, EDID, DMPS, and DDC are registered trademarks of Video

Electronics Standards Association (VESA).

ENERGY **S**TAR is registered trademark of the U.S. Environmental Protection Agency (EPA).

No parts this document may be copied, reproduced, or transmitted by any means, for any purpose without prior written permission from **ViewSonic**.

FCC Statement

This equipment has been tested and found to comply with the limits of Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and for if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause unacceptable interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of following measures

- Reorient or relocate the receiving antenna.
- Increase the separation between equipment and receiver.
- Connect the into an outlet on circuit different from that to which the receiver is connected.
- Consult the dealer or an experience radio/TV technician for help.

FCC Warning

To assure continued FCC compliance: the user must a grounded power supply cord and the provided shielded video interface cable with bonded ferrite cores. Also, unauthorized changes or modifications to ViewSonic products will void the user's authority to operate the device. Thus ViewSonic will not be held responsible for the product and its safety.

CE Certification

CE this device complies with the requirements of the ECC directive 89/3366/EEC with regard to "Electromagnetic compatibility."

Safety Guidelines

Caution: Use a power cable that is properly grounded. always use the AC cords listed below for each area

USA	(UL)
Canada	(CSA)
Germany	(VDE)
Switzerland	(SEV)
Britain	(BASE/BS)
Japan	(Electric Appliance Control Act)

In other areas, use AC cord which meets the local safety standards.

Chapter 1 Feature

1.1. On-View on-screen-display digital controlled

1.1.1. User friendly 4-key control and On Screen Display for finest screen adjustment:

- **CONTRAST**
- **BRIGHTNESS**
- **H-SIZE**
- **H-POSITION**
- **V-SIZE**
- **V-POSITION**
- **PINCUSHION**
- **PIN-BALANCE**
- **TRAPEZOID**
- **PARALLELOGRAM**
- **ZOOM**
- **TILT**
- **VIEWMETER**
- **CONVERGENCE**
- **V-LINEARITY**
- **HOOKING**
- **COLOR**
- **PURITY**
- **OSD POSITION**
- **MOIRE**
- **DEGAUSS**
- **LANGUAGE**
- **DATA RECALL**

1.1.2. Factory geometric settings for 12 preset timings.

1.1.3. Geometric settings for 6 user definable timings.

1.1.4. Factory setting for Color Temperature modes (5000°K, 6500°K,9300°K).

1.1.5. Auto-tracking for stable synchronize system.

1.2. Power-line-input operating range

90~132Vac/60Hz or 180~264Vac/50Hz universal

Confidential - Do Not Copy

1.3. DPMS (Display Power Management System)

1.3.1. The P220f is compliant with Energy Star as well as VESA DPMS spec.

1.3.2. The power dissipation is less than 15 watts for Suspend/Standby mode and 3 watts for Off mode.

1.4. Operating Frequency range

The P220f provides wide operating ranges of horizontal frequency from 30 to 96KHz and Vertical frequency from 50 to 180Hz. This range makes the P220f to be compatible with most video timing standard such as VGA, SVGA, VESA, XGA, ... and etc. It supports up to 1024 x 768 @75Hz, 1280 x 1024 @75Hz and 1600 x 1200 @ 75Hz.

Confidential - Do Not Copy

Chapter 2 Specification

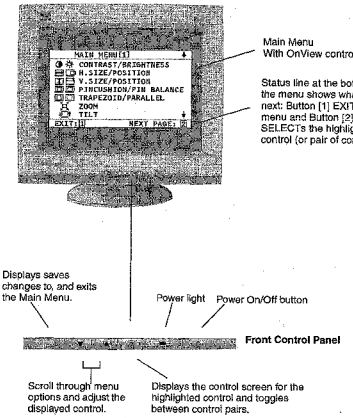
CRT	MITSUBISHI, 22NF Diamondtron, 90 degree deflection. .25mm dot pitch, tinted, anti-glare, anti-static
Signal Input Interface	Video: RGB analog 0.7Vp-p/75ohm (1Vp-p with sync) Sync: H.V. Separate Sync H.V. Composite Sync (TTL Compatible) Sync on green
Synchronization	Horizontal: 30 to 96KHz for analog input Vertical: 50 to 180Hz Non-interlaced/interlaced for analog input
Connector	Signal: 15pin mini D-sub Power: 3-pole receptacle
Video Bandwidth	200MHz nominal
Nominal Display Area	380x285mm
Power Supply	90 ~ 264 Vac Universal
Power Consumption	170W max.
Power Saving	Suspend <15W OFF < 3W

Confidential - Do Not Copy

Chapter 3. Controls

Adjusting the Screen Image

Beginning with the Main Menu shown below, use the buttons on the front control panel to adjust the OnView® controls which display on the screen. The OnView controls are explained in the on the next page and are further defined in "Main Menu Controls" on page 3-3


MAIN MENU[1]
CONTRAST/BRIGHTNESS
H.SIZE/POSITION
V.SIZE/POSITION
PINCUSHION/PIN BALANCE
TRAPEZOID/PARALLEL
ZOOM
TILT
EXIT:[1]
NEXT PAGE: [2]
Main Menu
With OnView controls
Status line at the bottom of the menu shows what to do next: Button [1] EXITs this menu and Button [2] SELECTs the highlighted control (or pair of controls).
Displays saves changes to, and exits the Main Menu.
Power light
Power On/Off button
Front Control Panel
Scroll through menu options and adjust the displayed control.
Displays the control screen for the highlighted control and toggles between control pairs.

* The monitor automatically *degausses* each time you turn it on, removing the buildup of magnetic fields that can affect color purity and convergence. To prevent possible damage, if you turn the monitor off, then immediately on again, wait 20 minutes before doing this again. **Do not turn the monitor on and off repeatedly.** To manually degauss the monitor, see the instructions on pa ge 3-5

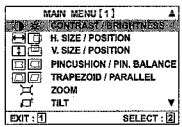
Confidential - Do Not Copy

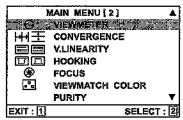
Do the following to adjust the screen image:

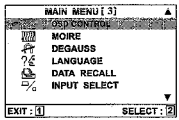
1 To display the Main Menu, press button [1].
2 To select a control you want to adjust, press ▲ or ▼ to scroll up or down the Main Menu.
3 To display the control screen from the selected control, press button [2].
4 To adjust the selected control, press the up ▲ or down ▼ buttons.
5 To save the adjustments and exit the menu, press button [1] twice.

NOTE: Some controls on the Main Menu are listed in pairs, such as Contrast/ Brightness. Press button [2] to toggle between control pairs after displaying a control screen (Step 3 above).

Shortcut: Before displaying the Main Menu, press [▲] or [▼] to display the Contrast/Brightness control screen.







Confidential! Do Not Copy

Main Menu Controls

The menu items shown below can be adjusted by using the up ▲ and down ▼ buttons.

Control	Explanation
	Contrast adjusts the difference between the image background (black level) and the foreground (white level).
	Brightness adjusts the background black level of the screen image.
	Horizontal Size adjusts the width of the screen image.
	Horizontal Position moves the screen image left or right.
	Vertical Size adjusts the height of the screen image.
	Vertical Position moves the screen image up or down.
	Pincushion curves the vertical sides of the screen image.
	Pin Balance curves the vertical edges of the screen image to the left or right.
	Trapezoid makes the vertical edges of the screen image parallel.
	Parallel slants the vertical edges of the screen image.
	Zoom expands and contracts the entire screen image.
	Tilt rotates the entire screen image.
	Viewmeter® displays information regarding the current input signal coming from the graphics card of the computer.

Confidential: Do Not Copy

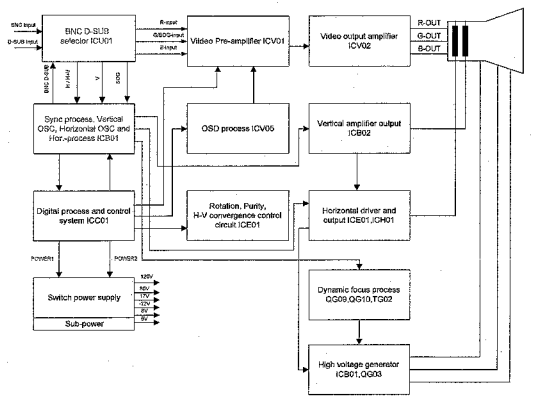
Control	Explanation (Continued)
	H. Convergence (Horizontal Convergence) adjusts vertical color alignment. Use this control when red or blue borders are present around the vertical segments of black letters on a white background.
	V. Convergence (Vertical Convergence) adjusts horizontal color alignment. Use this control when red or blue borders are present around the horizontal segments of black letters on a white background.
	V. Linearity- Cen (Vertical Linearity Center) adjusts the vertical distortion at the center of the screen image. **Note:** V. Linearity is an advanced control to used for setup and calibration only.
	V. Linearity- Sym (Vertical Linearity Symmetry) minimizes the distortion (squeezing or stretching) of geometric shapes between the top and bottom of the screen image). V. Linearity is an advanced control to used for setup and calibration only.
	Top Hooking adjusts the top corners of the screen image.
	Bottom Hooking adjusts the bottom corners of the screen image.
	Focus adjusts the sharpness of the screen.
	ViewMatch® Color provides several color options: several preset color temperatures and User Color which allows you to adjust red (R), green (G), and blue (B). The factory setting for this product is 9300K (9300 Kelvin). **9300K** — Adds blue to the screen image for cooler white (used in most office settings with fluorescent lighting). **6500K** — Adds red to the screen image for warmer white and richer red. **5000K** — Adds blue and green to the screen image for a darker color. **User Color** — Individual adjustments for red, green, and blue.

Confidential - Do Not Copy

Control	Explanation (Continued)
	Purity adjusts the uneven color of the overall image. For example, if one area of a color appears darker than another area, first use the degauss feature. If color is still uneven, use the purity control.
	Top Left adjusts uneven color at top left corner of screen.
	Top Right adjusts uneven color at top right corner of screen.
	Bottom Left adjusts uneven color at bottom left corner of screen.
	Bottom Right adjusts uneven color at bottom right corner of screen.
	OSD Control allows you to move the on-screen display menus and control screens.
	Moire reduces interference patterns that appear as ripples, waves, or unwanted background color textures. Interference patterns of this type are most noticeable when viewing images having closely spaced lines or finely detailed patterns.
	Degauss removes the build-up of magnetic fields that can cause irregular colors to appear around the edges of screen images. There are two ways to degauss the display: automatically by turning the monitor on, or manually by selecting the Degauss control from the menu. With Degauss selected from the menu, press button [2] to manually degauss the monitor. Do not degauss repeatedly. Doing so can be harmful to the display. Wait at least 20 minutes before selecting this control again.
	Language allows you to choose from among several languages for the menus and control screens: English, French, German, Italian, and Spanish.
	Data Recall returns adjustments to the original factory settings if the display is operating in a factory preset timing mode listed in this user guide. *Exception:* This control does not affect changes made with the **User Color** control.
	Input Select allows you to toggle between two or more video-signal sources (D-Sub and BNC).

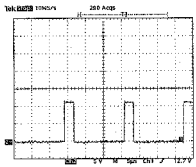
Confidential - Do Not Copy

Chapter 4 Block Diagram

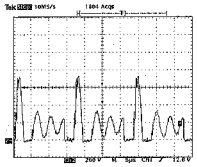


Confidential-Do Not Copy

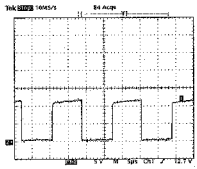
Chapter 5 Measured Waveform



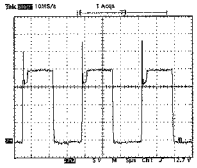
S1



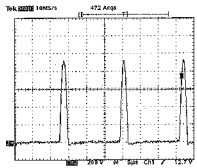
S2



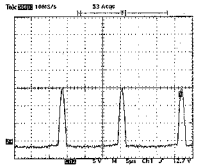
S3



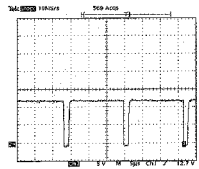
S4



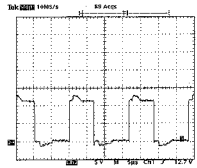
S5



S6

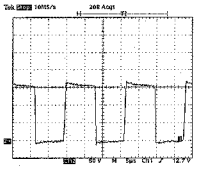


S7

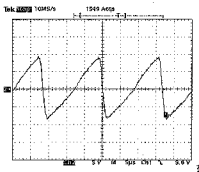


S8

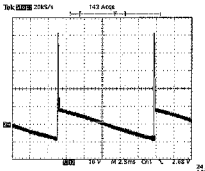
Confidential - Do Not Copy



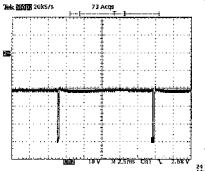
S9



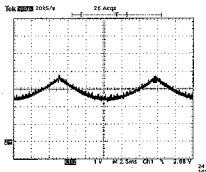
S10



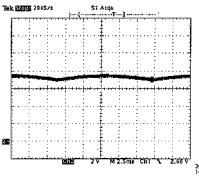
S11



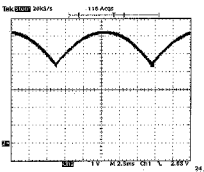
S12



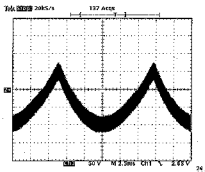
S13



S14

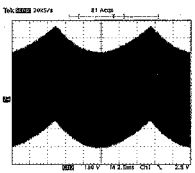


S15

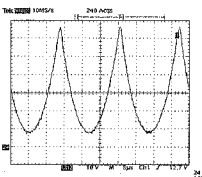


S16

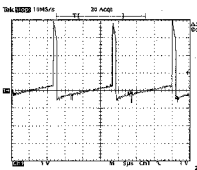
Confidential - Do Not Copy



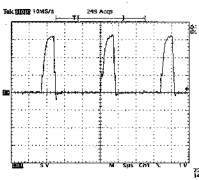
S17



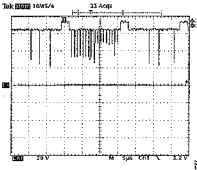
S18



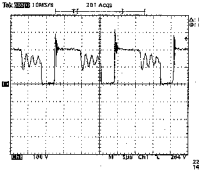
S19



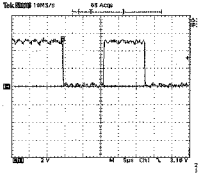
S20



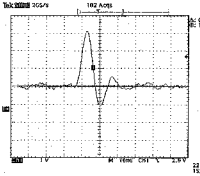
S21



S22



S23

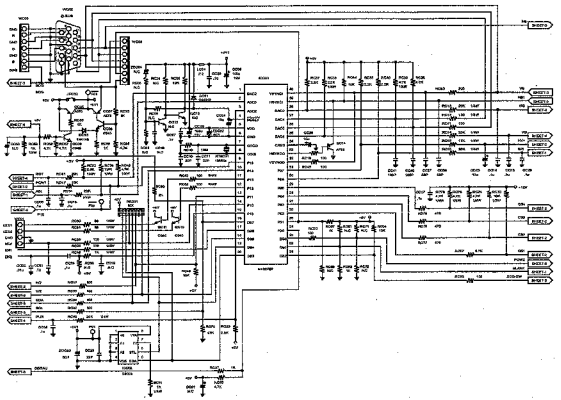


S24

Confidential - Do Not Copy

Chapter 6 Theory of circuit operation

6.1. Micro Controller System



The micro controller system is composed of the MCU, the serial E2PROM, the voltage monitor circuit, the encoder signal reshaping circuit.

6.1.1. The MCU (ICC01, NT68P62) mainly provides the following functions:

6.1.1-a. Detect the system input signals and send proper control signals via general purpose I/O pins.

6.1.1-b. Output 6 PWM's to adjust the voltage controlled functions such as BRIGHTNESS, TITL,...,etc.

6.1.1-c. Control the following characteristics of the deflection IC TDA4856 and the video pre-amp TDA4887 via I2C bus:

- **TDA4856:**
  1. H- SIZE,H-POSITION
  2. V-SIZE,V-POSITION
  3. PINCUSHION, PIN-BALANCE
  4. TRAPEZOID, PARALLELOGRAM

Confidential - Do Not Copy

5. H-CONVERGENCE, V-CONVERGENCE,
6. V-LINE-CEN, V-LINE-SYM
7. HOOKING

Confidential – Do Not Copy

8. MOIRE
9. HD-DUTY
10. Internal clamping pulse position & width

- **TDA4887:**
  1. Contrast, OSD Contrast
  2. R,G,B gain

6.1.1-d. Control the OSD IC D1642 via IIC bus to display the monitor status.

6.1.1-e. Detect the input sync characteristics via TDA4856, identify the input timing, read the according settings in the E2PROM and then send proper controls such as CS-switch, LEDs display, Contrast, Brightness, H-Size, H-Pos, ..., etc.

6.1.1-f. Monitor the level of DAC output ABL and then send the proper contrast setting in TDA4887 to achieve the beam current limitation .

6.1.1-g. Set and detect the display board status and implement the ADC input KEY and signals..

6.1.1-h. Provide the DDC1/2B/2B+ interface to PC system or auto-alignment system.

The serial E2PROM ICC02 (24LC08) memory device to reserve the fixed monitor parameters, the factory alignment result, the user adjusting result, the user defined timing characteristics, ..., etc. While is only readable and optional to change the preset timing modes and/or their ID/name displayed on the OSD.

The propose of the voltage monitor circuit composed by DC01,RC05,CC04 is to keep the MCU working normal when the supply voltage is unstable. It is done by resetting the MCU while the supply voltage drops.

6.2. High Voltage Control Circuit

High Voltage Control Circuit is working basically by using switching theory with the main component ICB01 (TDA4856).

6.2.1. Circuit operating theory is explained as following:

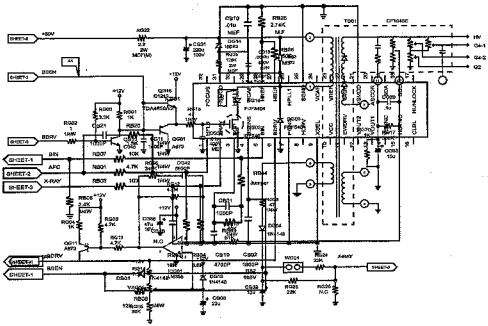
6.2.1-a. When Power ON and the Vcc DC level of pin6 of ICB01 (TDA4856) exceeding 0.6V, ICB01 starts to work and the oscillate frequency is decided by RB25,RB26,CB10.

6.2.1-b. When ICB01 is working normally the output square wave of pin4 ***as figure S1*** will turn on QG03. The ON/OFF cycle of QG03 will make the primary of FBT (pin 1 ~2) acted like a Switching Power X'FMR ***as figure S2***.

6.2.1-c. AFC signal ***as figure S6*** is feed via RB01 to synchronize the oscillator of ICB01. Then, the high voltage will be always synchronized with horizontal deflection.

Confidential – Do Not Copy

6.2.1-d. Usually loading change will cause unstable condition, so a high voltage feed back system is designed to maintain the stability of the high voltage circuit. This feed back system is started from voltage sensor on the pin11 of the FBT. The sensed voltage compares with the reference voltage on pin 5 of ICG01 and the difference is amplified then feed back to ICB01 to keep the HV stable.



Confidential – Do Not Copy

6.2.2. LM358 OP2 is controlled by following factors:

6.2.2-a. A feed back reference voltage circuit that consists of RG14, VRG01, and RG15 to adjust the high voltage.

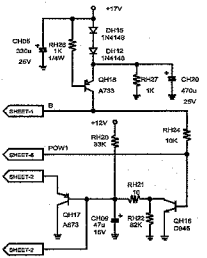
6.2.2-b. When horizontal deflection is no function, there is no sensed current on TH02 and no voltage on CH07 (A1). Then ICG02 will pull down high voltage to protect CRT. After H-deflection circuit start to work properly, A1 voltage increases gradually and the output of ICG02 will become high to release the reference voltage of HV circuits. Then HV will raise up softly due to CG08.

6.3. X-RAY High Voltage Protection CKT

X-RAY High Voltage Protection CKT is to get a DC level voltage by utilizing the output waveform of FBT's pin6 to pin3 (GND) via a rectifier consists of DG04, CG32. This DC level voltage inputs to the pin2 (X-RAY) of ICB01 TDA4856. The preset X-RAY protection voltage is 6.4 volts. If the high voltage is higher than the preset voltage, the DC level voltage input into the pin2 will also be higher than 6.4 volts to make the pin8 of ICB01 off. It also means the HD signal is off, then horizontal deflection is off and the high voltage is also off.

Confidential – Do Not Copy

6.4. Soft-Start & Power Off Protection CKT & Suspend Control CKT



6.4.1. Soft-Start:

During the instant period of power on, unstable condition of horizontal deflection will easily damage components. So, Soft-Start is designed to control such an unstable condition.

When power on, during the period that 12 volts increases from 0 volts to 12 volts, the DC level of QH17 is controlled by RC Constant circuit RH20 and CH09.

QH17 controls the level at pin5 of ICH01 LM555. The width of the duty cycle at pin3 of ICH01 LM555 will be gradually increased. Till the CH09 is fully charged, QH17 is off is not working.

6.4.2. Power Off Protection CKT:

In order to turn off the B+ of horizontal deflection when power is off, QH18 are designed to meet the purpose.

When power off, the 17 volts decreases and the base level of QH18 is dropped. So QH18 is still on.

Confidential - Do Not Copy

6.4.3. Suspend Control CKT:

When entering Suspend Mode will send out a high level on POW1 to make:

6.4.3-a. QH16 is on and CH09 is discharge through QH16, then QH17 is on turns ICH01 and H-deflection B+ off. Since CH09 is discharge through QH16, the Soft-Start works when B is low level.

6.4.3-b. When H-deflection is turned off. A1signal will shut down HV circuit as described in sec. 6.2.2-b.

When monitor is from suspend back to normal mode, A1 is low level B and QH16 are off. The output is back to normal when CH09 makes Soft-Start worked and ICH01 is not controlled by QH17. So, Horizontal deflection and high voltage work normally.

6.5. Video-Amplifier/On-Screen-Display

The video amplifier system consists of the Pre-Amplifier, the Video-Power-Amplifier, and the Cutoff-Voltage-Adjusting circuits.

6.5.1. The functions of the Pre-Amplifier ICV01(TDA4887) include:

6.5.1-a. The small signal video amplifier controlled by MCU via I2C bus for the features of contrast (main gain control), output DC level 3 sub gain controls (R-Gain, G-Gain, B-Gain), clamping pulse source (AFC) and the clamping pulse width.

6.5.1-b. The OSD mixer processes the OSD-BI, OSD-RI, OSD-GI on Pin2, 3, 4 and the OSD BKG input on Pin1 and the OSD contrast is controlled by MCU via I2C bus.

The Video-Power-Amplifier ICV02 is a 3-channel hybrid-IC which functions as a cascade type transistor amplifier to reach the high bandwidth performance.

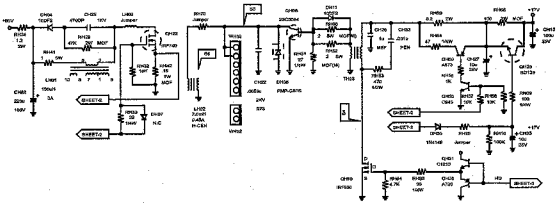
The Cutoff-Adjusting circuit consist of ICV06, QV04, QV05, QV06 is to provide the function of dark/background white-balance control by varying the peak voltages on the CRT cathodes. (Only R, G, B guns)

ICV05 (D1642) serving as the OSD generator outputs the R, G, B, FBKG signals that contain the information by which the MCU shows the monitor's status and the user adjusting indications. The R, G, B, FBKG signals are synchronized by the horizontal and vertical deflection sync input on Pin5 and Pin10. The MCU controls the OSD via the signals SDA, SCL on pin7,8.

*(the schematic diagram refer to **the sheet 7 of the Schematic section)***

Confidential - Do Not Copy

6.6. Horizontal Deflection Driving Circuit



6.6.1. HD signal ***as figure S3*** is output from pin8 of ICB01 TDA4856 and through QH20 and QH21 to drive QH19 IRF630 and TH03. ***Refer to figure S4***

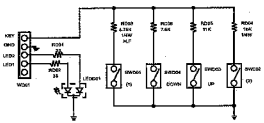
6.6.2. TH03 controls the driving current via DH05, CH35, QH28 and related circuits.

6.6.2-a. ICC01 H/2 control the reference voltage via QH10.

6.6.3. Through above items a and utilizing TH03 to drive QH06, the LC oscillation circuit that consists of defection coil CH22 and DH08 works. ***Refer to figure S5***

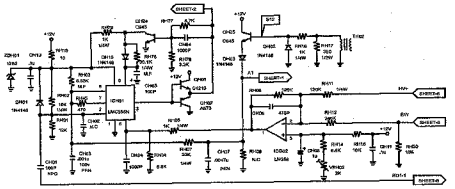
6.7. Display Circuit

The display board includes the LED driving circuit (MCU controlled by LED1 and LED2 to drive, key detecting circuit (SWD01, SWD02, SWD03, SWD04 to MCU ADC input).



Confidential - Do Not Copy

6.8. Horizontal Deflection B+ Control Circuit



6.8.1. ICH01 Trigger circuit:

ICH01 is via RH03, RH45, RH07 and CH03 to get RC oscillation. The frequency is decided by the trigger at pin2. The pin5 controls the duty width of output waveform. ICH01 Trigger CKT is mainly controlled by the following:

6.8.1-a. Trigger composite circuit: Signal ***as figure S3*** is composition of HD via QH20 and QH21. HD is square waveform.

6.8.1-b. Reference voltage waveform: ICG02 OP1 controls it.

6.8.1-c. Trigger output circuit: OP1 combines above circuit.

6.8.2. Operating description:

6.8.2-a. At the power on moment, the horizontal deflection is not working, so the trigger signal HD is differentiated .by CH01 and RH01, then feed to pin2 of ICH01. QH17 controls pin5 of ICH01 and make the output duty width at pin3 of ICH01 increased gradually and drive QH22 via TH01. ***Refer to figure S8.***

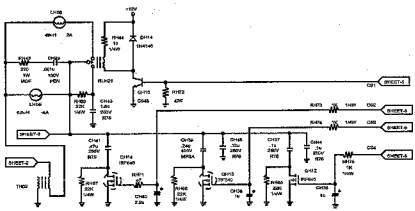
6.8.2-b. After QH22's driven, the B^+ ***as figure S9*** is output to LH02 and the horizontal deflection starts operation.

Confidential - Do Not Copy

6.8.2-c. The horizontal deflection works steadily after above 1 to 3 steps are completed.

6.8.2-d. ICH01 LM555 is a mono stable oscillator. In high frequency, the trigger Duty may be double triggered and makes the output frequency dropped when the trigger Duty is smaller than the output Duty width, thus there is no enough B+ for horizontal deflection. In order to have enough B+ and precise output Duty in the high frequency, QH01/QH02 output is differentiated via CH64, RH77 and RH78 and triggers QH24 to limit the output Duty at pin4 of ICH01. ***Refer to figure S7***

6.9. Horizontal Linearity Compensation Circuit



This circuit is designed to minimize the horizontal linearity variations in different horizontal frequency. There are two parts in this circuit:

6.9.1. Inductance compensation circuit:

The main component is LH06 (Linearity coil). The compensation circuit consists of QH15.

6.9.2. Capacitance compensation circuit:

CH44 is Cs capacitors. QH13 controls CH39, QH14 controls CH41. QH12 controls CH37 **ICC01 NT68P62** pin29 (CS4), pin28 (CS3), pin27(CS2) and pin26(CS1) controls QH13, QH12 and QH14 respectively. So, different frequency has different combination to meet the requirement.

For example: When frequency is 31KHz, ICC01 makes CS1~CS4 in high level. Thus, QH13 and QH15 Drain-Source is on to make the Cs capacitance equal to CH45+CH44+CH39+CH41=0.082μF+0.1μF+0.39μF+1.2μF+0.15μF+0.082uF=2.004μF.

Confidential - Do Not Copy

6.10. H-Size Pincushion Control CKT

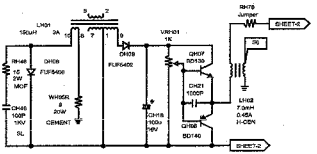
H-Size & Pincushion are used to control B+ that will change the horizontal deflection amplitude. To control B+, the amplitude at ICH01 pin5 and the Duty width at ICH01 pin3 have to be changed. So ICH01 pin5 connects the control CKT that consists of ICG02 OP1. The reference level and waveform are mixed by ICG02 and send to ICH01 pin5.

6.10.1. VRH02 is mainly to preset the H-Size of each mode, and ICC01 pin31 is to change each specified mode.

6.10.2. In the Pincushion control, a parabolic waveform ***as figure S13*** is from pin11 EWDRV of ICB01 TDA4854 and into ICG02 OP1 to create a output parabolic waveform. ***as figure S14***

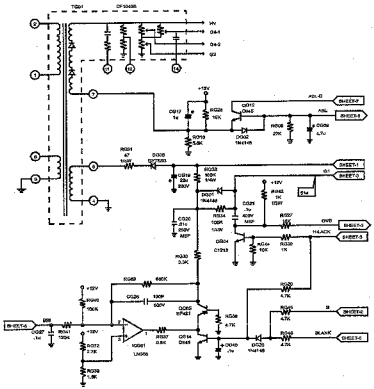
6.11. H-Center Control Circuit

H-Center is designed to adjust the Raster's center position by using the secondary current of LH01. This current is rectified through DH09, CH18 and to generate a DC current that will through the adjustment of RH38, VRH01 and RH39. Finally, the current is through the emitter follower, QH07 and QH08, and into LH02 to increase and decrease the horizontal deflection current.



Confidential - Do Not Copy

6.12. Brightness Blanking Reset Control CKT



Change the Brightness level by controlling the G1.

6.12.1. In normal working condition, the G1 waveform is synchronized with the vertical sync waveform ***as figure S12***. Since the purpose is to blank the vertical flyback scanning line when vertical is flyback, so the HLACK vertical deflection waveform through RG44, QG04 is used to control it.

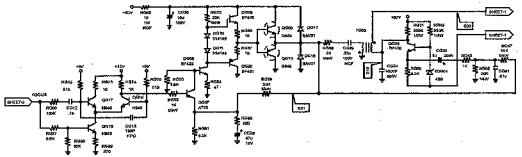
6.12.2. Brightness control is via the control at pin30 of ICC01 (NT68P62) pin30 and through the control at ICG01(LM358) OP1 and QG05 to control the DC level of G1.

6.12.3. When frequency is changed, the pin22 Blank of ICC01 will output a high level to RG46,DG20 to make QG14 on. In the same time, thus QG05 off and to get G1 voltage -180V and to blank the screen. After the frequency changed, the pin22 of ICC01 will output a low Level to make QG14 OFF. In the same time, QG05 is not controlled by the pin22 of ICC01 and the Brightness control works normally.

6.12.4. When mode changes from power on to suspend, B will output a high level to make QG14 and QG03 on. QG05 base has positive signal to make QG05 off, to get G1 -180V and to blank the screen.

Confidential - Do Not Copy

6.13. Focus CKT



Dynamic Focus is used to get perfect focusing of each dot on the screen.

6.13.1. There are H-Focus and Focus (H and V):

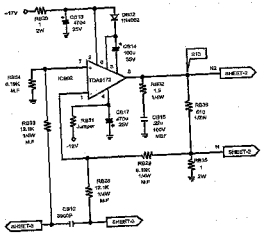
6.13.1-a. Focus(H) ***as figure S18***: ICB01 pin32(Focus) outputs a parabolic waveform and through RG52 and QG07 into QG08 to get a reverse amplified waveform. This waveform is via the emitter follower, QG09 and QG10, as a current gain then input into TG02.

6.13.1-b. Focus(V) ***as figure S16***: ICB01 pin32 outputs a parabolic waveform. This Waveform is amplified by QG06 and input into TG02.

6.13.1-c. Focus (H and V) are into TG02 to get a combined output waveform that will input to FBT pin9.

Confidential - Do Not Copy

6.14. Vertical Deflection CKT



6.14.1. Vertical deflection Saw-tooth waveform is provided by ICB01 pin12 (VOUT2) and amplified by TDA8172.

6.14.2. A voltage multiplier, connected to pin3 and pin6, consists of DB02 and CB21 is designed to avoid flyback scanning line appeared during the vertical flyback period.

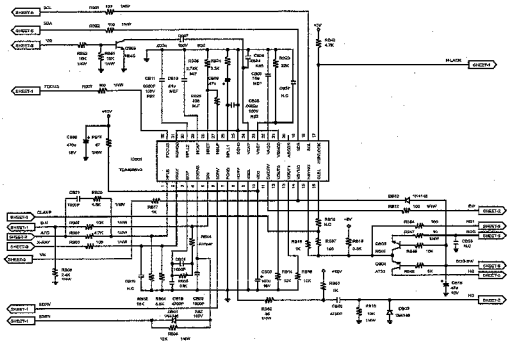
6.14.3. ICB01 pin13 (VOUT1) provides a DC level to CB05, RB23, bCB06 as a V-Position control voltage. As long as pin13 DC level changed, V-Position is also changed.

6.14.4. Vertical Deflection Wave ***as figure S11***

Confidential - Do Not Copy

6.15. TDA4856 Circuit

The ICB01 (TDA4856) acts as a key component processing small signals for deflection circuits. The functions of TDA4856 include:



6.15.1. Synchro Processor

6.15.1-a. Capability to accept separate H/V(pin15, pin14) which could be selected by MCU via I2C control(pin18,19).

6.15.1-b. Status register with sync polarity, existence, locking states could be read by MCU via I2C.

Confidential, Do Not Copy

6.15.2. Horizontal part:

6.15.2-a. Wide self-locking range with 27 to 96KHz of HPLL1 to lock the HD frequency to H-sync input. The values of RB25(pin27) and CB09,RB27(pin28) decides the free run frequency(27KHz)

6.15.2-b. The H-phase control by MCU via I2C is also done at the HPLL1 stage.

6.15.2-c. The HPLL2 (pin30) locks the horizontal deflection via AFC (pin1) and provides the functions of dynamic phase controls(Pin-Balance and Parallelogram, internal) control by MCU via I2C.

6.15.2-d. The I2C controlled Focus of Amplitude is output on pin32 and amplified to compensate the horizontal dynamic focus.

6.15.3. Vertical part:

6.15.3-a. The DC voltage of the V-ramp is output on pin12, 13 to ICB02 to be the reference voltage of the amplifier.

6.15.3-b. Vertical parabola generator with I2C controlled amplitude, keystone, S-curve and cupid-bow output on pin31 to the horizontal deflection CKT to compensate the pincushion-like distortion.

6.15.3-c. Focus output on pin32 to be amplified to compensate the vertical dynamic focus.

6.15.3-d. Internal geometry tracking with V-Pos and V-Amp.

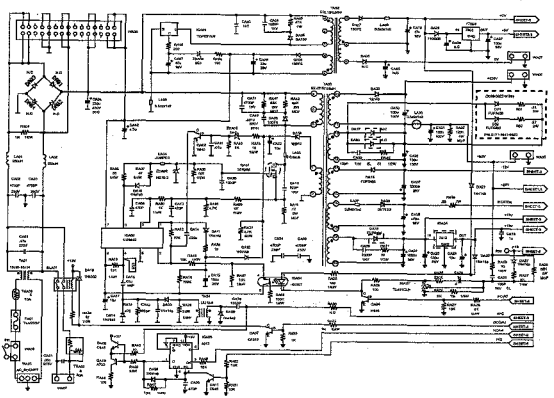
6.15.4. Others

6.15.4-a. HUNLOCK status on pin17 to protect H deflection CKT.

6.15.4-b. X-ray protection input on pin2.

Confidential - Do Not Copy

6.16. Power Supply Working Theory



ICA01 and ICA02 consist of a Current Mode Switch Power Supply and provides +80V, +70V, +5V, +17V, -12V and Heater voltage.

6.16.1-a. ICA01 and TA02 are auxiliary power source. ICA01 consists of PWM and Power MOS with an internal oscillate frequency 100KHz and combines with TA02 to provide +5V output. The +17V is through TA02 pin2 and rectified by DA07 to provide ICA02 working voltage and is fed back through ZDA02 into pin C to get a stable output voltage.

6.16.1-b. ICA02, QA01 and TA03 are main power source. ICA02 uses PWM to drive QA01 and TA03 to generate each output voltage. The output voltage is fed back via +80V to ICA07 TL431, then coupled to ICA02 pin 2 via ICA04 4N35 to make +80V stable. TA04 accepts AFC signal to make Power Supply's working frequency synchronized with the horizontal frequency.

6.16.1-c. ZDA03 and DA12 consist of the over-voltage protection circuit.

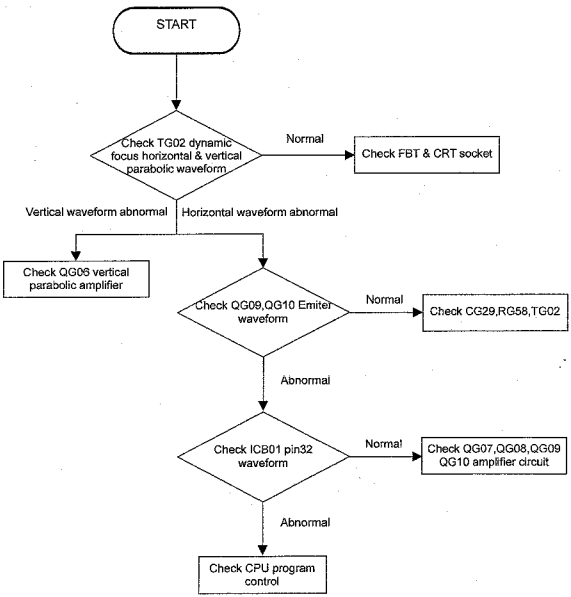
Confidential - Do Not Copy

6.16.1-d. When output voltage is much higher than normal value or the feed back voltage is abnormal, in order to get protection, the output at pin9 of TA03 raises to the level that ZDA03 is on to trigger QA12 that makes ICA02 pin1 grounded.

Confidential - Do Not Copy

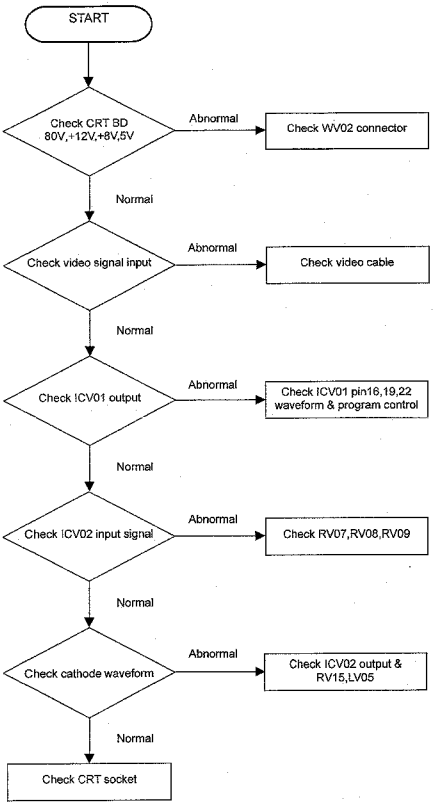
Chapter 7 Trouble Shooting

7.1. Dynamic Focus Failure



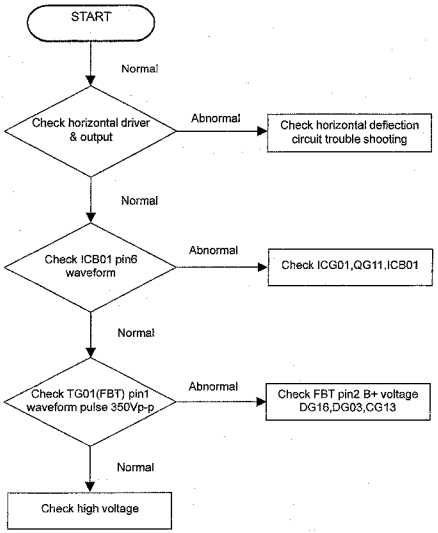
Confidential - Do Not Copy

7.2. Video Does Not Appear



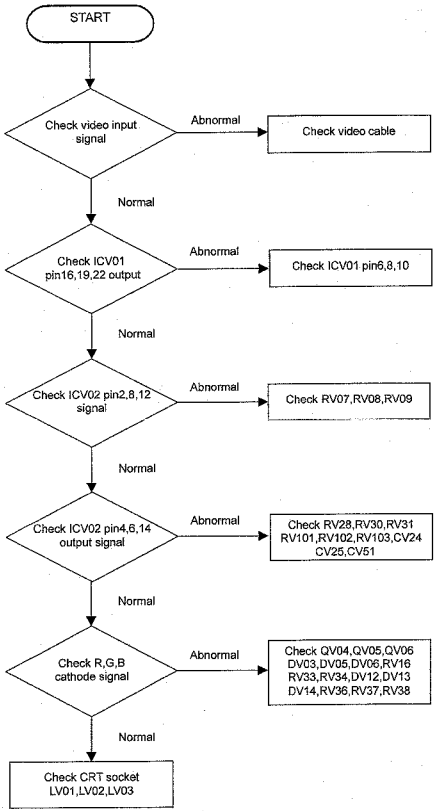
Confidential - Do Not Copy

7.3. High Voltage Generator Failure



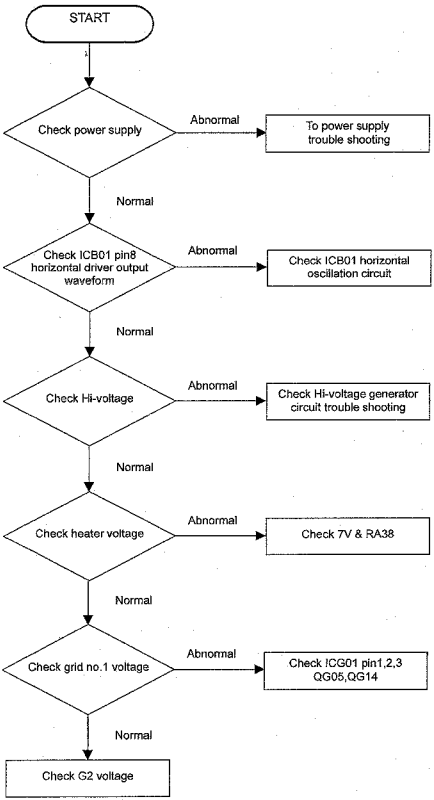
Confidential - Do Not Copy

7.4. Video No R, G, B Color



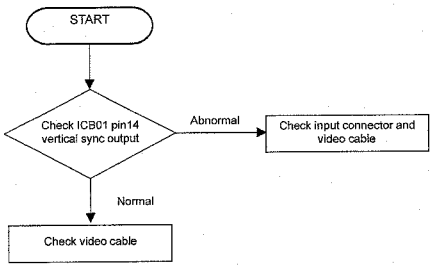
Confidential - Do Not Copy

7.5. Raster Does Not Appear

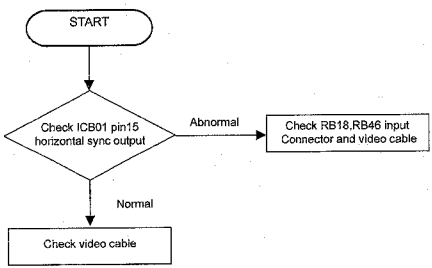


Confidential - Do Not Copy

7.6. Vertical Sync Failure

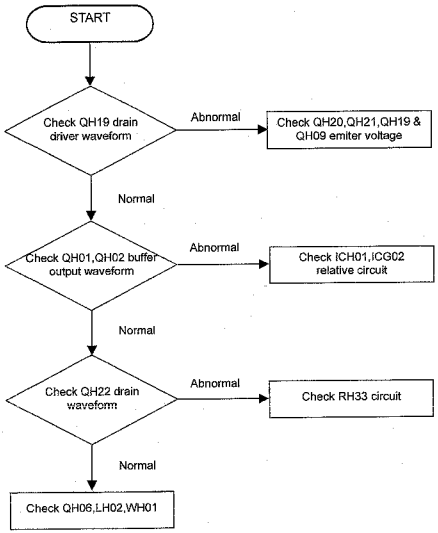


7.7. Horizontal Sync Failure



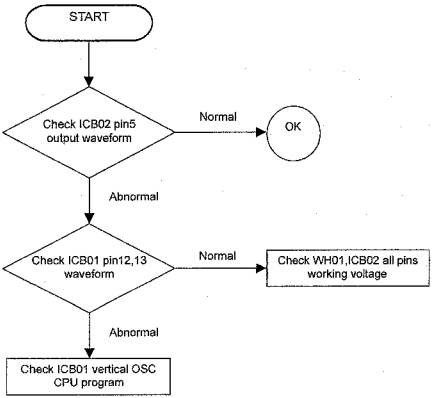
Confidential - Do Not Copy

7.8. Horizontal Deflection Failure



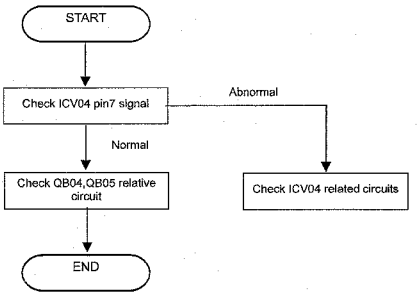
Confidential - Do Not Copy

7.9. Single Horizontal Line

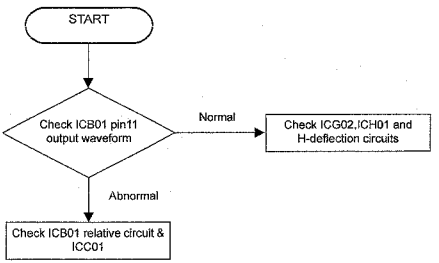


Confidential - Do Not Copy

7.10. Sync On Green Does Not Work

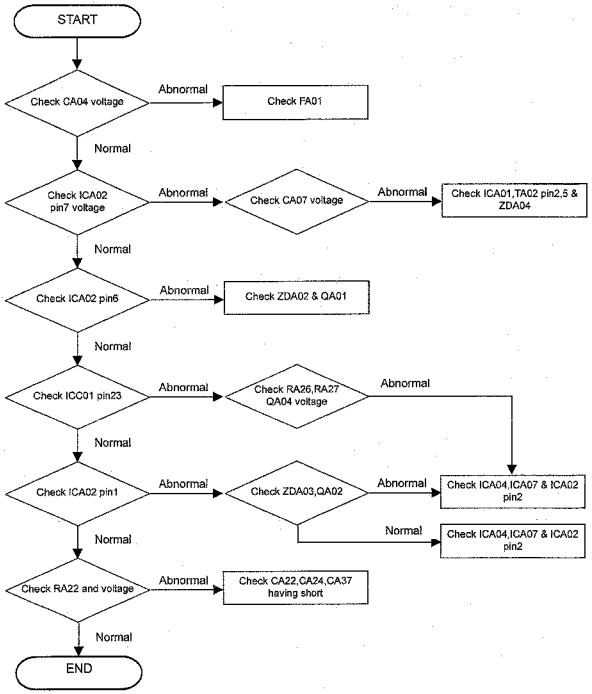


7.11. Pincushion & Distortion Problems



Confidential - Do Not Copy

7.12.No Voltage Output



Confidential - Do Not Copy

Chapter 8 Alignment Process

8.1. Factory Adjust Procedure

Input timing:1280x1024 (H=91K,V=85Hz)
Pattern: Cross-Hatch

8.1.1. Turn ON the monitor with the **[2]** key keeping pressed for more than 4 seconds to enter the **Preset-Adjust mode**. (There should be an 'P' at the top-bottom corner of the **On-Screen-Display**).

8.1.2. E2PROM Initial Procedure:

8.1.2-a. Use the OSD controls to enter the " **E2PROM INI** ", and toggle it (push the [2] key)

8.1.2-b. Press button [1] toggle to the e2prom initial operation

8.1.2-c. Press button [2] toggle to exit control

8.1.3. Touch Heat Sink of **DA17** to make Voltage = **80±2V**

8.1.4. Adjust **VRG01** to make **CRT High-Voltage = 27KV**

8.1.5. Preset **"640x480 75Hz"** to 100% then adjust **VRH02** to make **H-Size Full Scan**

8.1.6. Adjust **VRH01** to make **H-Center** (raster) **±3** mm

8.1.7. Short **WG01** to make **X-Ray** Protection and Restart the monitor in **Preset-Adjust mode**

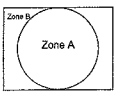
8.1.8. Preset "31K Pattern Cross-Hatch" check CA04 to make voltage 190V Min.

8.1.9. Use the **On-Screen-Display Controls** to adjust the "**H-Position**" ,"**V-Size**", "**V-Position**", "**Pincushion**", "**Trapezoid**", "**Parallel**", "**P-Balance**", "**Rotation**", "**VLinr-Sym**", "**VLinr-Center**", "**Top-Hooking**", "**Bottom-Hooking**" to meet the **Spec.**:

- H-Position: ± 1.5mm
- V-Size: 285 ± 1.5mm
- V-Position: ± 1.5mm
- Pincushion: ≤ 1.5mm
- Trapezoid: ≤ 1.5mm
- Parallel: ≤ 1.5mm
- P-Balance: ≤ 1.5mm
- Rotation: ≤ 1.5mm

8.1.10. Jitter - Not allowed (Viewed at 45 cm)

8.1.11. Misconvergence -Zone A: 0.25mm; Zone B: 0.35mm



Confidential - Do Not Copy

8.2. Factory Preset Data Adjust Procedure

Input timing: see attached
Pattern: Cross-Hatch

8.2.1. Turn ON the monitor with the **[2]** key keeping pressed for more than 4 seconds to enter the **Preset-Adjust mode**. (There should be an '**P**' at the top-left corner of the **On-Screen-Display**).

8.2.2. For each timing list on attached table (except primary one <1280x1024 H=91K, V=85Hz), use the **On-Screen-Display Controls** to adjust the "**H-Size**", "**H-Position**"(video), "**V-Size**", "**V-Position**", "**Pincushion**", "**Trapezoid**", "**Parallel**", "**P-balance**", to meet the Spec.:

- H-Size: 396± 1.5mm
- H-Position: ± 1.5mm
- V-Size: 297 ± 1.5mm
- V-Position: ± 1.5mm
- Pincushion: ≤ 1.5mm
- Trapezoid: ≤ 1.5mm
- Parallel: ≤ 1.5mm
- P-Balance: ≤ 1.5mm

8.3. Color Adjust Procedure

Input timing: 1280 x 1024 (H=91K,V=85Hz)
Pattern: Center Block/Full White

8.3.1. Turn ON the monitor with the **[2]** key keeping pressed for more than 4 seconds to enter the **Preset-Adjust mode**. (There should be an '**P**' at the top-left corner of the **On-Screen-Display**).

8.3.2. Cut Off Adjust:

8.3.2-a. Use the **OSD Controls** to adjust the "**CONTRAST**" to **min.**(00), "**BRIGHTNESS**" to **max.**(100), "**SUB-BRI**" to 50

8.3.2-b. Enter the "**VIEWMATCH COLOR**" submenu of the **OSD Control**

8.3.2-c. Select the "**VIEWMATCH COLOR**" and toggle it (push the Function key) to **CUTOFF**

8.3.2-d. Preset the **RED,GREEN,BLUE** to 0

8.3.2-e. Adjust the **RED,GREEN,BLUE** to obtain color temperature **X=0.283±0.010,Y=0.297±0.010**

8.3.2-f. Adjust **G2 voltage** to obtain raster **BRIGHTNESS** about ≤ **0.5FL.**

Confidential - Do Not Copy

8.3.3. Color Temperature Adjust:

8.3.3-a. Use the **OSD Controls** to adjust the "**BRIGHTNESS**" to **50**, then the "**CONTRAST**" to **100.**

8.3.3-b. Toggle the "**VIEWMATCH COLOR**" to **9300°K**

8.3.3-c. Preset the **RED,GREEN,BLUE**

8.3.3-d. Adjust the **RED,GREEN,BLUE** to obtain color temperature **X=0.283±0.010,Y=0.297±0.010**

8.3.3-e. Repeat **step b,c,d** to adjust color temp. **6500K (X=0.313±0.015,Y=0.329±0.015)** and **5000°K (X=0.346±0.015,Y=0.359±0.015)**

8.3.4. White Luminance Adjust

8.3.4-a. Center Block White Luminance:

- Use the **OSD Controls** to adjust the "**CONTRAST**" to **100** , "**BRIGHTNESS**" to **50, "ABL" to 50**
- Toggle the "**VIEWMATCH COLOR**" to **9300°K**
- Adjust the **"SUB-CONT"** to make the center block ≥42±2 FL

8.3.4-b. Full White Luminance:

- Use the **OSD Controls** to adjust the "**CONTRAST**" to **100** to, then the "**BRIGHTNESS**" to **50**
- Toggle the "**VIEWMATCH COLOR**" to **9300°K**
- Adjust the "**ABL**" to obtain luminance output 30±2 FL in the full white pattern

Confidential - Do Not Copy

Chapter 9 Spare Parts List

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
1		0320-2400-0010	POWER CORD 6ft 100V T-MARK	J model only
2		0320-3400-0010	POWER CORD 6ft 220V VDE	E model only
3		0320-3400-0020	PC POWER CORD 6ft 220V VDE	-P/-A model
4		0320-4400-0010	POWER CORD 6ft 110V UL/CSA AL	-M/-E model
5		0320-5000-0010	POWER CORD 6ft 220V SAA	A model only
6		0321-0400-0130	S.CABLE 1800mm 15(3R-3R) 3+6C (+PIN9)	
7		1701-0104-3010	BEZEL P220f G7397 PC+ABS	
8		1701-0201-6030	BACK COVER P220f PC+ABS D-SUB-BNC	
9		1925-1000-0680	POLYLON TOP LEFT (EPO)	
10		1925-1000-0670	POLYLON TOP RIGHT (EPO)	
11		1925-1000-0680	POLYLON BOTTOM (EPO)	
12		1925-1200-1930	CARTON VIEWSONIC P220f	-M/-E model
13		1925-1200-2040	CARTON P220f -P	-P/-J/-A model
14		1925-1300-1950	MANUAL VIEWSONIC P220f	M model only
15		1925-1300-2090	MANUAL P220f -E	E model only
16		1925-1300-2110	MANUAL P220f -P	-P/-J/-A model
17		3017-0142-0156	ASS'Y DISPLAY BD	
18		3021-0092-0150	ASS'Y MAIN/PWR/CTRL BD P220f	
19		3021-0092-0301	BASE(USB) ASS'Y G7397 PC+ABS	
20		3021-0112-0151	ASS'Y VIDEO BD (ICV02: VPS16)	
21		3021-0022-0118	ASS'Y BNC BD	
22		3021-0022-0157	ASS'Y POWER FACTOR BD	
23	DA17	3019-0022-0159	ASS'Y DIODE BD OPTION BD	
24	DG06	0390-3003-2052	FAST DIODE BYT53G T	
25	DG17	0390-5000-9132	GEN. DIODE BAV21 T	
26	DH06	0390-3004-8022	FAST DIODE FUF5408 T	
27	DH08	0390-2000-2180	DAMPER DIODE FMP-G5FS N-F	
28	DP05	3019-0042-0159	ASS'Y DIODE OPTION BF FOR DP05	
29	ICA01	0430-4004-0230	IC TOP221Y TO-220 3PIN	
30	ICA02	0430-7000-3107	IC UC3842 DIP 8PIN	
31	ICA04	0430-7000-1110	IC 4N35 DIP 6PIN	
32	ICB01	0430-4005-2109	IC TDA4856/V2 SDIP 32PIN	
33	ICB02	0430-4001-7107	IC TDA8172 DIP 7PIN	
34	ICC01	0430-5002-6142	IC NT68P62 DIP 40PIN(OTP)	
35	ICG01	0430-4000-1104	IC LM358 DIP-8	
36	ICV01	0430-4006-1409	IC TDA4887 SDIP 24PIN	
37	ICV02	0430-4004-3114	IC VPS16 DIP 15PIN	
38	ICV05	0430-7003-9141	IC D1642 DIP 16PIN V3.0	
39	QA01	0420-1002-0508	POWER MOS 2SK956 TO-3P (800V 9A)	
40	QG03	0420-1001-5401	POWER MOS IRF740 TO-220	
41	QG05	0410-4000-2111	TRANSISTOR BF421 TO-92 T	
42	QG06	0410-4000-1111	TRANSISTOR BF420 TO-92 T	
43	QG08	0410-4000-3105	TRANSISTOR BF422 TO-92 T	
44	QG09	0410-3000-3306	TRANSISTOR 2SD669AC TO-126	
45	QG10	0410-1000-1306	TRANSISTOR 2SB649AC TO-126	
46	QH06	0410-2001-5516	TR NPN 2SC5584 1500V 20A TOP-3	
47	QH14	0420-1000-2407	POWER MOS IRF640 TO-220	
48	QH19	0420-1000-1401	POWER MOS IRF630 TO-220	
49	QH22	0420-1001-9401	POWER MOS IRF740 TO-220 3PIN	
50	QH28	0410-6000-1311	TRANSISTOR BD139 TO-126	
51	RLH01	0251-1210-0016	RELAY 1POLES 240V/10A/12 Vdc DT	
52	ZDA02	0400-1751-2000	ZENER 18-2 17.5-18.3 1/2W	

Confidential - Do Not Copy

Chapter 10 Critical Parts List

ITEM	LOACTION	PART NO	DESCRIPTION	REMARK
1		0210-0220-0155	CRT 22" M51LRY21X62 MIT. .25mm	
2		0330-2200-0170	DEGAUSSING 22" 4.5ohm C1 0.8x100Ts	
3		0330-2200-0270	DEGAUSSING 22" 4.5ohm C2 0.8x100Ts	
4	CA01	0122-0474-2702	P/C X2 0.47uF 275V K B	
5	CA02	0122-1472-4000	D/C Y 4700PF 400V M N-F	
6	CA03	0122-1472-4000	D/C Y 4700PF 400V M N-F	
7	CA04	0101-1221-4503	E/C GEN. 220uF 450V 85' S	
8	CA33	0122-1472-2522	D/C Y 4700PF 250V M N-F	
9	CA34	0122-1472-2522	D/C Y 4700PF 250V M N-F	
10	FA01	0180-4402-5201	FUSE T-L 250V 4A 5x20 GLASS	
11	ICA04	0430-7000-1110	IC 4N35 DIP 6PIN	
12	LA01	0360-1000-0010	RING CORE L:250uH 4A	
13	LA02	0360-1000-0010	RING CORE L:250uH 4A	
14	QA01	0420-1002-0508	POWER MOS 2SK956 TO-3P (800V 9A)	
15	RA01	0130-1004-1250	RES. CF 1.0Mohm 1/2W J A	
16	RLA01	0252-1250-2012	RELAY 2POLES 250V/5A/12Vdc DT	
17	TA02	0350-0419-0030	X'FMR EEL19 5.5mH AT1099DA	
18	TA03	0350-0242-0090	X'FMR EE4215 105uH (21" & 22")	
19	TA04	0353-0600-0010	X'FMR SYNC UU 10.5 1.75-1.75mH	
20	TG01	0480-0000-0100	F.B.T. 26.5KV 3000PF (CF1043E)	
21	WA01	0262-0000-0012	AC SOCKET 0714C PCB TYPE	
22	WA02	0451-1000-0294	WAFER 10mm 2P WHITE	

Confidential - Do Not Copy

Chapter 11 Parts List

11.1. 202122107237 22" COLOR MONITOR P220f

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
1		170102016030	BACK COVER P220f PC+ABS D-SUB & BNC	1
2		170110000300	PLASTIC FOOT / GL-20HG(50)	2
3		172423041402	SCREW,BBC,M4.0X14L,ZN-CC	8
4		192510000660	POLYLON TOP LEFT (EPO) P220f,P225f	1
5		192510000670	POLYLON TOP RIGHT (EPO) P220f,P225f	1
6		192510000680	POLYLON BOTTOM (EPO) P220f,P225f	1
7		192511000110	PE BAG 1200Lx558Wx0.06t	1
8		192512001930	CARTON P220f	1
9		193610000100	V.SONIC LOGO (AL. PLATE)	1
10		194715001400	SPONGE 75LX75WX55T	1
11		302100820301	BASE(USB) ASS'Y G7397 PC+ABS	1
12		302102520303	CHASSIS ASS'Y P220f	1

Confidential - Do Not Copy

11.2. 302100620301 BASE(USB) ASS'Y PC+ABS (170105054010)

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
1	6V01	170105043000	SWIVEL BALL G7397 PC+ABS PF775,PF790	1
2	6V02	170105054010	USB BASE G7397 ABS GS815	1
3	6V02M	170110000200	BASE FOOT 18.8X5.8T	3
4	6V03	170108000160	USB BASE REAR COVER G7397	1

Confidential - Do Not Copy

11.3. 302102520303 CHASSIS ASS'Y P220f

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
1		021002200155	CRT 22" M51LRY21X62 MIT. .25MM	1
2		022020200261	SW PUSH BOTTOM SFDLD11E7U-AA	1
3		024204251504	HEAT S-T 4.0*0.25 15MM 125'	2
4		032044000010	POWER CORD 6FT 110V UL/CSA AL	1
5		032104000130	S.CABLE 1800mm 15(3R-3R) 3+6C (+PIN9)	1
6		033022000170	DEGAUSSING 22" 4.5ohm C1 0.8*100TS	1
7		033022000270	DEGAUSSING 22" 4.5ohm C2 0.8*100TS	1
8		033322000171	PURITY COIL 22" 180ohm + CORNER PURITY	1
9		046011060090	WH XH6P-XH2P*2 1007#24 300MM	1
10		046012030110	WH VHR3P UL2464#18*2C+AE 500MM	1
11		046012100040	WH ECI-3960 10P/6P/3P 1015#18/22 280MM	1
12		046017010142	WH SRA4.3-SRA4.3 0.12/112C 270MM + H-S	2
13		046017010180	WH SRA4.3-SRA4.3 1015#18 400MM	1
14		046017010270	WH SRA4.3 0.12/112C 130MM + H-S	1
15		046017010360	WH SRA4.3-SRA5.4 0.12/112C 100MM+H-S	4
16		046017010450	WH SRA4.3-SRA4.3 0.12/112C 110mm + H-S	1
17		046022020201	BRAID 0.12/112C 1015#18 1070MM	1
18		170108000010	CONNEC DECORATIVE PLATE	1
19		170114009800	WIRE SADDLE/ YJ98	18
20		170114020300	WIRE SADDLE/ YJ-203S	2
21		170115000010	WIRE CLIPS NYLON 66(UL)	1
22		170115000900	SPACER SUPPORTS/FCB-10	9
23		170115001300	FBT CLIPS / HV-3	1
24		171201000032	SUPPORT BRACKET LEFT	1
25		171201000042	SUPPORT BRACKET RIGHT	1
26		171201000080	CHASSIS HOLDER AT398HA	1
27		171201004600	VIDEO BD BRACKET AT1097F/P795/PT771	1
28		171203000030	VIDEO BD SHIELDING	1
29		171205000162	CRT BD SHIELDING-A	1
30		171205000172	BOTTOM SHIELDING AT1097FB,AT1099DB	1
31		171206000011	COPPER CLAW	2
32		172423041402	SCREW,BBC,M4.0X14L,ZN-CC	8
33		172426030802	SCREW,BTCW,M3.0X8L,ZZ-CC	22
34		172437053402	SCREW BPCTW #5.0*34*WASHER@16	4
35		192511000402	PE BAG 360LX200WX0.04T/EUROPE	1
36		192513001950	MANUAL P220f	1
37		192514000090	TCO99 ECO DOCUMENT	1
38		193611002160	B/C LBL P220f	1
39		193615000200	FDA WARNING LBL AT396D	1
40		194716000080	.INF&.ICM CD ROM	1
41		302100220118	ASS'Y BNC BD P220f,P225f	1
42		302100920150	ASS'Y MAIN/PWR/CTRL BD P220f	1
43		302101120151	ASS'Y VIDEO BD AT320DB (ICV02:VPS16)	1
44		302102520306	BEZEL ASS'Y P220f G7397 PC+ABS	1

Confidential – Do Not Copy

11.4. 302100220118 ASS'Y BNC BD P220f,P225f

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
1	BNC01	171201004300	BNC BRACKET AT897/PT771/P795	1
2	BNC02	170108001900	BNC PLATE AT897/PT771/P795	1
3	BNC03	171205002000	GROUNDING PLATE	1
4	BNU01	030300000010	BNC CONN. 50ohm 180' 36MM	1
5	BNU02	030300000010	BNC CONN. 50ohm 180' 36MM	1
6	BNU03	030300000010	BNC CONN. 50ohm 180' 36MM	1
7	BNU04	030300000010	BNC CONN. 50ohm 180' 36MM	1
8	BNU05	030300000010	BNC CONN. 50ohm 180' 36MM	1
9	CNU01	030012103152	D-SUB FEMALE 180' 15P 3ROW	1
10	CU05	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
11	CU14	010114701211	E/C GEN. 47UF 16V 105' F	1
12	CU15	010111011211	E/C GEN. 100UF 16V 105' F	1
13	CU17	010111011211	E/C GEN. 100UF 16V 105' F	1
14	DU01	039050001052	GEN. DIODE 1N4148 T	1
15	DU02	039050001052	GEN. DIODE 1N4148 T	1
16	DU03	039050001052	GEN. DIODE 1N4148 T	1
17	DU04	039050001052	GEN. DIODE 1N4148 T	1
18	DU05	039050001052	GEN. DIODE 1N4148 T	1
19	DU06	039050001052	GEN. DIODE 1N4148 T	1
20	ICU01	043070054402	IC M52758SP SDIP 32PIN	1
21	LU01	023075080000	JUMPER WIRE 7.5*0.6MM	1
22	PCB7	017134410061	PCB BNC BD FR-4 220x170mmx1.6t	1
23	QU01	041020001110	TRANSISTOR 2SC945P TO-92 T	1
24	RU01	013075091850	RES. CF 75ohm 1/8W J A	1
25	RU02	013075091850	RES. CF 75ohm 1/8W J A	1
26	RU03	013075091850	RES. CF 75ohm 1/8W J A	1
27	RU04	013075091850	RES. CF 75ohm 1/8W J A	1
28	RU05	013075091850	RES. CF 75ohm 1/8W J A	1
29	RU06	013075091850	RES. CF 75ohm 1/8W J A	1
30	RU07	013010001850	RES. CF 100ohm 1/8W J A	1
31	RU08	013010001850	RES. CF 100ohm 1/8W J A	1
32	RU09	013010001450	RES. CF 100ohm 1/4W J A	1
33	RU10	013010001450	RES. CF 100ohm 1/4W J A	1
34	RU11	013047021850	RES. CF 47Kohm 1/8W J A	1
35	RU12	013047021850	RES. CF 47Kohm 1/8W J A	1
36	RU13	013047021450	RES. CF 47Kohm 1/4W J A	1
37	RU14	013047021450	RES. CF 47Kohm 1/4W J A	1
38	RU15	013010001450	RES. CF 100ohm 1/4W J A	1
39	RU16	013047001850	RES. CF 470ohm 1/8W J A	1
40	RU17	013010001450	RES. CF 100ohm 1/4W J A	1
41	RU18	013010001450	RES. CF 100ohm 1/4W J A	1
42	RU19	013047021850	RES. CF 47Kohm 1/8W J A	1
43	RU20	013010021850	RES. CF 10Kohm 1/8W J A	1
44	RU21	013033091850	RES. CF 33ohm 1/8W J A	1
45	RU22	013033091850	RES. CF 33ohm 1/8W J A	1
46	RU23	013033091850	RES. CF 33ohm 1/8W J A	1
47	RU25	013033091850	RES. CF 33ohm 1/8W J A	1
48	RU26	013033091850	RES. CF 33ohm 1/8W J A	1
49	RU27	013033091850	RES. CF 33ohm 1/8W J A	1
50	RU28	013033091850	RES. CF 33ohm 1/8W J A	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
51	RU29	013033091850	RES. CF 33ohm 1/8W J A	1
52	RU30	013033091850	RES. CF 33ohm 1/8W J A	1
53	RU31	013033091850	RES. CF 33ohm 1/8W J A	1
54	RU32	013033011850	RES. CF 3.3Kohm 1/8W J A	1
55	RU33	013033091850	RES. CF 33ohm 1/8W J A	1
56	RU34	013033011850	RES. CF 3.3Kohm 1/8W J A	1
57	WU01	046011070110	WH XH7P-SCN7P 1354(A+B)#28 215mm+core	1
58	WU02	045125000944	WAFER 2.50MM 9P 90' KINK	1

Confidential - Do Not Copy

11.5. 302100920150 ASS'Y MAIN/PWR/CTRL BD P220f

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
1	CA01	012204742702	P/C X2 0.47UF 275V K B	1
2	CA02	012214724000	D/C Y 4700PF 400V M N-F	1
3	CA03	012214724000	D/C Y 4700PF 400V M N-F	1
4	CA04	010112214503	E/C GEN. 220UF 450V 85' S	1
5	CA06	011114715112	C/C DISK 470PF 50V Y5P F-K	1
6	CA07	010114701211	E/C GEN. 47UF 16V 105' F	1
7	CA08	011111021312	C/C DISK 1000PF 1KV Y5P F-K	1
8	CA09	010113301311	E/C GEN. 33UF 25V 105' F	1
9	CA10	010114701211	E/C GEN. 47UF 16V 105' F	1
10	CA11	011114721322	C/C DISK 4700PF 1KV Z5U F-K	1
11	CA12	011112211312	C/C DISK 220PF 1KV Y5P F-K	1
12	CA13	011114715112	C/C DISK 470PF 50V Y5P F-K	1
13	CA14	011112235122	C/C DISK 0.022UF 50V Z5U F-K	1
14	CA15	010111011311	E/C GEN. 100UF 25V 105' F	1
15	CA16	012051030531	P/C MEF 0.01UF 50V J F-K (T)	1
16	CA17	010111001511	E/C GEN. 10UF 50V 105' F	1
17	CA18	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
18	CA19	011111025112	C/C DISK 1000PF 50V Y5P F-K	1
19	CA20	010111012012	E/C GEN. 100UF 100V 105' K	1
20	CA21	010111012012	E/C GEN. 100UF 100V 105' K	1
21	CA22	010111021312	E/C GEN. 1000UF 25V 105' K	1
22	CA23	010111011311	E/C GEN. 100UF 25V 105' F	1
23	CA24	010111001511	E/C GEN. 10UF 50V 105' F	1
24	CA25	010114711211	E/C GEN. 470UF 16V 105' F	1
25	CA26	011121011312	C/C DISK 100PF 1KV SL F-K	1
26	CA27	010111011211	E/C GEN. 100UF 16V 105' F	1
27	CA29	010111091511	E/C GEN. 1.0UF 50V 105'F	1
28	CA30	011114715112	C/C DISK 470PF 50V Y5P F-K	1
29	CA31	012201032702	P/C X2 0.01UF 275V K B	1
30	CA32	010111001511	E/C GEN. 10UF 50V 105' F	1
31	CA33	012214722522	D/C Y 4700PF 250V M N-F	1
32	CA34	012214722522	D/C Y 4700PF 250V M N-F	1
33	CA35	011111021312	C/C DISK 1000PF 1KV Y5P F-K	1
34	CA36	011111025112	C/C DISK 1000PF 50V Y5P F-K	1
35	CA37	010111021312	E/C GEN. 1000UF 25V 105' K	1
36	CA38	010111011211	E/C GEN. 100UF 16V 105' F	1
37	CA39	011121011312	C/C DISK 100PF 1KV SL F-K	1
38	CA40	011111025112	C/C DISK 1000PF 50V Y5P F-K	1
39	CA41	011111035122	C/C DISK 0.01UF 50V Z5U F-K	1
40	CA42	010114791511	E/C GEN. 4.7UF 50V 105' F	1
41	CA43	012031026331	P/C PPN 0.001UF 630V J F-K	1
42	CA50	010111012012	E/C GEN. 100UF 100V 105' K	1
43	CB01	011111025112	C/C DISK 1000PF 50V Y5P F-K	1
44	CB02	012121821032	P/C R82 1800PF 100V J B	1
45	CB03	010111011211	E/C GEN. 100UF 16V 105' F	1
46	CB05	012051540531	P/C MEF 0.15UF 50V J F-K	1
47	CB06	012128231032	P/C R82 0.082UF 100V J B	1
48	CB07	012122231032	P/C R82 0.022UF 100V J B	1
49	CB08	012128221032	P/C R82 0.0082UF 100V J B	1
50	CB09	010114781511	E/C GEN. 0.47UF 50V 105' F	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
51	CB10	012051030531	P/C MEF 0.01UF 50V J F-K (T)	1
52	CB11	012123321032	P/C R82 3300PF 100V J B	1
53	CB12	011113325112	C/C DISK 3300PF 50V Y5P F-K	1
54	CB13	010114711311	E/C GEN. 470UF 25V 105' F	1
55	CB14	010111011411	E/C GEN. 100UF 35V 105' F	1
56	CB15	012052241031	P/C MEF 0.22UF 100V J F-K	1
57	CB16	010114701211	E/C GEN. 47UF 16V 105' F	1
58	CB17	010114711311	E/C GEN. 470UF 25V 105' F	1
59	CB19	011114725112	C/C DISK 4700PF 50V Y5P F-K	1
60	CB20	011114725112	C/C DISK 4700PF 50V Y5P F-K	1
61	CB21	011111025112	C/C DISK 1000PF 50V Y5P F-K	1
62	CC04	010111001511	E/C GEN. 10UF 50V 105' F	1
63	CC05	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
64	CC06	010111011211	E/C GEN. 100UF 16V 105' F	1
65	CC07	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
66	CC08	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
67	CC09	010111011211	E/C GEN. 100UF 16V 105' F	1
68	CC10	011122205102	C/C DISK 22PF 50V NPO F-K	1
69	CC11	011122205102	C/C DISK 22PF 50V NPO F-K	1
70	CC13	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
71	CC14	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
72	CC15	010111001511	E/C GEN. 10UF 50V 105' F	1
73	CC16	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
74	CC17	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
75	CC20	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
76	CC21	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
77	CC22	011111035122	C/C DISK 0.01UF 50V Z5U F-K	1
78	CC23	011122205102	C/C DISK 22PF 50V NPO F-K	1
79	CC24	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
80	CC25	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
81	CC27	011126805102	C/C DISK 68PF 50V NPO F-K	1
82	CC28	011126805102	C/C DISK 68PF 50V NPO F-K	1
83	CC39	010111001511	E/C GEN. 10UF 50V 105' F	1
84	CC40	011121015102	C/C DISK 100PF 50V NPO F-K	1
85	CC41	011121015102	C/C DISK 100PF 50V NPO F-K	1
86	CE03	011111035122	C/C DISK 0.01UF 50V Z5U F-K	1
87	CE04	010131091511	E/C N-P 1UF 50V 105' F	1
88	CE05	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
89	CE06	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
90	CE10	010111011311	E/C GEN. 100UF 25V 105' F	1
91	CE11	011111035122	C/C DISK 0.01UF 50V Z5U F-K	1
92	CE12	010131091511	E/C N-P 1UF 50V 105' F	1
93	CE13	011111035122	C/C DISK 0.01UF 50V Z5U F-K	1
94	CE14	010131091511	E/C N-P 1UF 50V 105' F	1
95	CE15	011111035122	C/C DISK 0.01UF 50V Z5U F-K	1
96	CE16	010131091511	E/C N-P 1UF 50V 105' F	1
97	CE18	011111035122	C/C DISK 0.01UF 50V Z5U F-K	1
98	CE20	010111011211	E/C GEN. 100UF 16V 105' F	1
99	CG08	010112201211	E/C GEN. 22UF 16V 105' F	1
100	CG09	010114791511	E/C GEN. 4.7UF 50V 105' F	1

Confidential! Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
101	CG10	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
102	CG11	011111025112	C/C DISK 1000PF 50V Y5P F-K	1
103	CG12	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
104	CG13	012034726331	P/C PPN 0.0047UF 630V J F-K	1
105	CG15	011121815102	C/C DISK 180PF 50V NPO F-K	1
106	CG17	010111091511	E/C GEN. 1.0UF 50V 105'F	1
107	CG19	010112202212	E/C GEN. 22UF 200V 105' K	1
108	CG20	012051032531	P/C MEF 0.01UF 250V J F-K	1
109	CG21	012051044031	P/C MEF 0.1UF 400V J F-K	1
110	CG23	010114792211	E/C GEN. 4.7UF 200V 105' F	1
111	CG24	011111025212	C/C DISK 1000PF 500V Y5P F-K	1
112	CG26	011111015212	C/C DISK 100PF 500V Y5P F-K	1
113	CG27	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
114	CG28	010114701211	E/C GEN. 47UF 16V 105' F	1
115	CG29	012052241031	P/C MEF 0.22UF 100V J F-K	1
116	CG30	010111002011	E/C GEN. 10UF 100V 105' F	1
117	CG31	010112212012	E/C GEN. 220UF 100V 105'K	1
118	CG32	010111001511	E/C GEN. 10UF 50V 105' F	1
119	CG33	010111001511	E/C GEN. 10UF 50V 105' F	1
120	CG35	012051034031	P/C MEF 0.01UF 400V J F-K	1
121	CG36	010114701211	E/C GEN. 47UF 16V 105' F	1
122	CG39	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
123	CG41	011111035122	C/C DISK 0.01UF 50V Z5U F-K	1
124	CG42	011116825112	C/C DISK 6800PF 50V Y5P F-K	1
125	CH01	011121015102	C/C DISK 100PF 50V NPO F-K	1
126	CH03	012031021031	P/C PPN 0.001UF 100V J F-K	1
127	CH04	011111025112	C/C DISK 1000PF 50V Y5P F-K	1
128	CH05	010113311312	E/C GEN. 330UF 25V 105' K	1
129	CH06	011114715112	C/C DISK 470PF 50V Y5P F-K	1
130	CH07	012024720531	P/C PEN 0.0047UF 50V J F-K	1
131	CH08	010111091511	E/C GEN. 1.0UF 50V 105'F	1
132	CH09	010114701211	E/C GEN. 47UF 16V 105' F	1
133	CH10	011111025112	C/C DISK 1000PF 50V Y5P F-K	1
134	CH11	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
135	CH13	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
136	CH15	010111011311	E/C GEN. 100UF 25V 105' F	1
137	CH18	010111011211	E/C GEN. 100UF 16V 105' F	1
138	CH20	010114711311	E/C GEN. 470UF 25V 105' F	1
139	CH21	011111025112	C/C DISK 1000PF 50V Y5P F-K	1
140	CH22	012115629232	P/C R73 5600PF 2KV J BOX	1
141	CH23	012021021031	P/C PEN 0.001UF 100V J F-K (T)	1
142	CH25	011114721322	C/C DISK 4700PF 1KV Z5U F-K	1
143	CH26	012051050531	P/C MEF 1.0UF 50V J F-K	1
144	CH27	010111001511	E/C GEN. 10UF 50V 105' F	1
145	CH30	010111091511	E/C GEN. 1.0UF 50V 105'F	1
146	CH33	012021020531	P/C PEN 0.001UF 50V J F-K (T)	1
147	CH35	010111001311	E/C GEN. 10UF 25V 105' F	1
148	CH36	010111091511	E/C GEN. 1.0UF 50V 105'F	1
149	CH37	012171042532	P/C R76 0.1UF 250V J B	1
150	CH38	010111091511	E/C GEN. 1.0UF 50V 105'F	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
151	CH39	012182444031	P/C MPSA 0.24UF 400V J F-K	1
152	CH40	010112291511	E/C GEN. 2.2UF 50V 105' F	1
153	CH41	012164742532	P/C R75 0.47UF 250V J B	1
154	CH43	012161852532	P/C R75 1.8UF 250V J B	1
155	CH44	012171042532	P/C R76 0.1UF 250V J B	1
156	CH45	012171242532	P/C R76 0.12UF 250V J B	1
157	CH46	011121011312	C/C DISK 100PF 1KV SL F-K	1
158	CH62	010112212012	E/C GEN. 220UF 100V 105'K	1
159	CH64	011111025112	C/C DISK 1000PF 50V Y5P F-K	1
160	CH65	011121015102	C/C DISK 100PF 50V NPO F-K	1
161	CX01	010111011211	E/C GEN. 100UF 16V 105' F	1
162	CX02	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
163	CX03	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
164	CX04	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
165	CX05	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
166	CX06	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
167	CX07	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
168	CX08	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
169	CX09	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
170	CX10	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
171	CX11	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
172	CX12	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
173	CX13	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
174	DA05	039030004022	FAST DIODE BA159 T	1
175	DA06	039030001012	FAST DIODE 10DF2 T	1
176	DA07	039030001012	FAST DIODE 10DF2 T	1
177	DA08	039030025012	FAST DIODE 10DF6 T	1
178	DA09	039050001052	GEN. DIODE 1N4148 T	1
179	DA10	039050001052	GEN. DIODE 1N4148 T	1
180	DA11	039050001052	GEN. DIODE 1N4148 T	1
181	DA12	039050001052	GEN. DIODE 1N4148 T	1
182	DA13	039050001052	GEN. DIODE 1N4148 T	1
183	DA14	039050001052	GEN. DIODE 1N4148 T	1
184	DA15	039030028022	FAST DIODE FUF5402 T	1
185	DA16	039030029022	FAST DIODE FUF5404 T	1
186	DA16H	171206000041	HEAT SINK (60L*30W*1.2T)	1
187	DA17	301900220159	ASS'Y DIODE OPTION BD P95f FOR DA17	1
188	DA18	039050003202	GEN. DIODE 1N4002F T	1
189	DA19	039030001012	FAST DIODE 10DF2 T	1
190	DA20	039050001052	GEN. DIODE 1N4148 T	1
191	DA21	039050001052	GEN. DIODE 1N4148 T	1
192	DA23	039030032052	FAST DIODE BYT53G T	1
193	DA25	039050001052	GEN. DIODE 1N4148 T	1
194	DA27	039050001052	GEN. DIODE 1N4148 T	1
195	DA28	039060001012	SCHOTTKY DIODE 11DQ06 T	1
196	DA35	039030025012	FAST DIODE 10DF6 T	1
197	DB01	039050001052	GEN. DIODE 1N4148 T	1
198	DB02	039050003202	GEN. DIODE 1N4002F T	1
199	DB03	039050001052	GEN. DIODE 1N4148 T	1
200	DB10	039050001052	GEN. DIODE 1N4148 T	1

Confidential – Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
201	DC01	039050001052	GEN. DIODE 1N4148 T	1
202	DC03	039050001052	GEN. DIODE 1N4148 T	1
203	DG01	039050001052	GEN. DIODE 1N4148 T	1
204	DG02	039050001052	GEN. DIODE 1N4148 T	1
205	DG03	039030029022	FAST DIODE FUF5404 T	1
206	DG04	039050001052	GEN. DIODE 1N4148 T	1
207	DG06	039030032052	FAST DIODE BYT53G T	1
208	DG10	039050001052	GEN. DIODE 1N4148 T	1
209	DG11	039050001052	GEN. DIODE 1N4148 T	1
210	DG12	039050001052	GEN. DIODE 1N4148 T	1
211	DG13	039050001052	GEN. DIODE 1N4148 T	1
212	DG14	039030001012	FAST DIODE 10DF2 T	1
213	DG16	039030029022	FAST DIODE FUF5404 T	1
214	DG17	039050009132	GEN. DIODE BAV21 T	1
215	DG18	039050009132	GEN. DIODE BAV21 T	1
216	DG20	039050001052	GEN. DIODE 1N4148 T	1
217	DH01	039050001052	GEN. DIODE 1N4148 T	1
218	DH02	039050001052	GEN. DIODE 1N4148 T	1
219	DH03	039050001052	GEN. DIODE 1N4148 T	1
220	DH04	039030001012	FAST DIODE 10DF2 T	1
221	DH05	039050001052	GEN. DIODE 1N4148 T	1
222	DH06	039030048022	FAST DIODE FUF5408 T	1
223	DH08	039020002180	DAMPER DIODE FMP-G5FS N-F	1
224	DH08S	172417030802	SCREW,PB,M3.0X8L,ZN-CC	1
225	DH09	039030028022	FAST DIODE FUF5402 T	1
226	DH11	039030001012	FAST DIODE 10DF2 T	1
227	DH12	039050001052	GEN. DIODE 1N4148 T	1
228	DH13	039050001052	GEN. DIODE 1N4148 T	1
229	DH14	039050001052	GEN. DIODE 1N4148 T	1
230	DH15	039050001052	GEN. DIODE 1N4148 T	1
231	FA01	018044025201	FUSE T-L 250V 4A 5*20MM GLASS 5ST4	1
232	FA011	019000000010	FUSE CLIP 5*20MM	2
233	FG01	037000000710	FERRITE CORE RH 16X17X9	1
234	FG02	037000005110	FERRITE CORE W7 T 23*6.4*13.7	1
235	FG02C	170114009800	WIRE SADDLE/ YJ98	2
236	F01	046017010410	WH 1007#24 250mm BLK	1
237	F03	046017010431	WH 1007#24 150mm	1
238	G01	046020010092	WH 1015#18 320MM BLACK T/C	1
239	G03	046017010230	WH SRA4.3 1015#18 95MM	1
240	G11	046020010240	WH 1015#18 60MM BLACK	1
241	ICA01	043040040230	IC TOP221Y TO-220 3PIN	1
242	ICA02	043070003107	IC UC3842N DIP-8 PIN	1
243	ICA03	043060003210	IC MC7805CT TO-220 3 PIN	1
244	ICA04	043070001110	IC 4N35 DIP 6PIN	1
245	ICA05	043060005207	IC LM7812 TO-220 3 PIN	1
246	ICA05H	171204001400	HEAT SINK (23.5WX16.5TX25H)	1
247	ICA05S	172426030602	SCREW,BTCW,M3.0X6L,ZN-CC	1
248	ICA06	043000002110	IC MC14013BCP DIP-14	1
249	ICA07	043060004310	IC TL431CLP TO-92 3PIN T	1
250	ICB01	043040052109	IC TDA4856/V2 SDIP 32PIN	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
251	ICB02	043040017107	IC TDA8172 DIP 7PIN	1
252	ICB02H	171203000082	HEAT SINK FOR (80W*39T*69H)	1
253	ICB02R	170111000801	SILICON RUBBER /TO1633(30)	1
254	ICB02S	172426031202	SCREW,BTCW,M3.0X12L,ZN-CC	1
255	ICB02W	170106000200	TRANSISTOR COVER / TR-08	1
256	ICC01	043050026142	IC NT68P62 DIP 40PIN (OTP)	1
257	ICC01S	020125440000	IC SOCKET 2.54MM 40PIN	1
258	ICC02	043030004117	IC 24LC08B/P DIP 8PIN	1
259	ICE01	043040006104	IC LM324N DIP-14	1
260	ICG01	043040001104	IC LM358 DIP-8	1
261	ICG02	043040001104	IC LM358 DIP-8	1
262	ICH01	043030001115	IC TLC555CP DIP 8PIN	1
263	ICX01	043040055109	IC TDA8444P/N4 DIP 16PIN	1
264	JPA01	023012590000	JUMPER WIRE 12.5*0.6mm	1
265	JPC01	023050080000	JUMPER WIRE 5.0*0.6MM	1
266	J001	023020090000	JUMPER WIRE 20*0.6MM	1
267	J002	023020090000	JUMPER WIRE 20*0.6MM	1
268	J003	023022590000	JUMPER WIRE 22.5X0.6MM	1
269	J004	023025090000	JUMPER WIRE 25*0.6MM	1
270	J005	023010090000	JUMPER WIRE 10*0.6mm	1
271	J006	023075080000	JUMPER WIRE 7.5*0.6MM	1
272	J007	023015090000	JUMPER WIRE 15*0.6MM	1
273	J008	023012590000	JUMPER WIRE 12.5*0.6mm	1
274	J009	023017590000	JUMPER WIRE 17.5*0.6MM	1
275	J010	023017590000	JUMPER WIRE 17.5*0.6MM	1
276	J011	023025090000	JUMPER WIRE 25*0.6MM	1
277	J012	023025090000	JUMPER WIRE 25*0.6MM	1
278	J013	023075080000	JUMPER WIRE 7.5*0.6MM	1
279	J014	023075080000	JUMPER WIRE 7.5*0.6MM	1
280	J015	023075080000	JUMPER WIRE 7.5*0.6MM	1
281	J016	023025090000	JUMPER WIRE 25*0.6MM	1
282	J017	023025090000	JUMPER WIRE 25*0.6MM	1
283	J018	023025090000	JUMPER WIRE 25*0.6MM	1
284	J019	023025090000	JUMPER WIRE 25*0.6MM	1
285	J020	023025090000	JUMPER WIRE 25*0.6MM	1
286	J021	023050080000	JUMPER WIRE 5.0*0.6MM	1
287	J022	023012590000	JUMPER WIRE 12.5*0.6mm	1
288	J023	023025090000	JUMPER WIRE 25*0.6MM	1
289	J024	023025090000	JUMPER WIRE 25*0.6MM	1
290	J025	023012590000	JUMPER WIRE 12.5*0.6mm	1
291	J026	023022590000	JUMPER WIRE 22.5X0.6MM	1
292	J027	023022590000	JUMPER WIRE 22.5X0.6MM	1
293	J028	023020090000	JUMPER WIRE 20*0.6MM	1
294	J029	023025090000	JUMPER WIRE 25*0.6MM	1
295	J030	023025090000	JUMPER WIRE 25*0.6MM	1
296	J032	023017590000	JUMPER WIRE 17.5*0.6MM	1
297	J033	023075080000	JUMPER WIRE 7.5*0.6MM	1
298	J034	023017590000	JUMPER WIRE 17.5*0.6MM	1
299	J035	023017590000	JUMPER WIRE 17.5*0.6MM	1
300	J036	023022590000	JUMPER WIRE 22.5X0.6MM	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
301	J037	023025090000	JUMPER WIRE 25*0.6MM	1
302	J038	023025090000	JUMPER WIRE 25*0.6MM	1
303	J039	023025090000	JUMPER WIRE 25*0.6MM	1
304	J040	023075080000	JUMPER WIRE 7.5*0.6MM	1
305	J041	023015090000	JUMPER WIRE 15*0.6MM	1
306	J042	023020090000	JUMPER WIRE 20*0.6MM	1
307	J043	023022590000	JUMPER WIRE 22.5X0.6MM	1
308	J044	023075080000	JUMPER WIRE 7.5*0.6MM	1
309	J045	023022590000	JUMPER WIRE 22.5X0.6MM	1
310	J046	023022590000	JUMPER WIRE 22.5X0.6MM	1
311	J047	023015090000	JUMPER WIRE 15*0.6MM	1
312	J048	023012590000	JUMPER WIRE 12.5*0.6mm	1
313	J049	023020090000	JUMPER WIRE 20*0.6MM	1
314	J050	023020090000	JUMPER WIRE 20*0.6MM	1
315	J051	023015090000	JUMPER WIRE 15*0.6MM	1
316	J052	023015090000	JUMPER WIRE 15*0.6MM	1
317	J053	023010090000	JUMPER WIRE 10*0.6mm	1
318	J054	023010090000	JUMPER WIRE 10*0.6mm	1
319	J055	023075080000	JUMPER WIRE 7.5*0.6MM	1
320	J056	023010090000	JUMPER WIRE 10*0.6mm	1
321	J057	023017590000	JUMPER WIRE 17.5*0.6MM	1
322	J058	023050080000	JUMPER WIRE 5.0*0.6MM	1
323	J059	023015090000	JUMPER WIRE 15*0.6MM	1
324	J060	023010090000	JUMPER WIRE 10*0.6mm	1
325	J061	023015090000	JUMPER WIRE 15*0.6MM	1
326	J062	023020090000	JUMPER WIRE 20*0.6MM	1
327	J063	023075080000	JUMPER WIRE 7.5*0.6MM	1
328	J064	023010090000	JUMPER WIRE 10*0.6mm	1
329	J065	023012590000	JUMPER WIRE 12.5*0.6mm	1
330	J066	023010090000	JUMPER WIRE 10*0.6mm	1
331	J067	023020090000	JUMPER WIRE 20*0.6MM	1
332	J068	023017590000	JUMPER WIRE 17.5*0.6MM	1
333	J069	023010090000	JUMPER WIRE 10*0.6mm	1
334	J070	023012590000	JUMPER WIRE 12.5*0.6mm	1
335	J071	023010090000	JUMPER WIRE 10*0.6mm	1
336	J072	023017590000	JUMPER WIRE 17.5*0.6MM	1
337	J073	023075080000	JUMPER WIRE 7.5*0.6MM	1
338	J074	023010090000	JUMPER WIRE 10*0.6mm	1
339	J075	023010090000	JUMPER WIRE 10*0.6mm	1
340	J076	023015090000	JUMPER WIRE 15*0.6MM	1
341	J077	023017590000	JUMPER WIRE 17.5*0.6MM	1
342	J079	023017590000	JUMPER WIRE 17.5*0.6MM	1
343	J080	023020090000	JUMPER WIRE 20*0.6MM	1
344	J081	023017590000	JUMPER WIRE 17.5*0.6MM	1
345	J082	023010090000	JUMPER WIRE 10*0.6mm	1
346	J083	023020090000	JUMPER WIRE 20*0.6MM	1
347	J084	023050080000	JUMPER WIRE 5.0*0.6MM	1
348	J085	023017590000	JUMPER WIRE 17.5*0.6MM	1
349	J086	023017590000	JUMPER WIRE 17.5*0.6MM	1
350	J087	023010090000	JUMPER WIRE 10*0.6mm	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
351	J088	023010090000	JUMPER WIRE 10*0.6mm	1
352	J089	023015090000	JUMPER WIRE 15*0.6MM	1
353	J090	023012590000	JUMPER WIRE 12.5*0.6mm	1
354	J091	023015090000	JUMPER WIRE 15*0.6MM	1
355	J092	023022590000	JUMPER WIRE 22.5X0.6MM	1
356	J093	023010090000	JUMPER WIRE 10*0.6mm	1
357	J094	023010090000	JUMPER WIRE 10*0.6mm	1
358	J095	023020090000	JUMPER WIRE 20*0.6MM	1
359	J096	023075080000	JUMPER WIRE 7.5*0.6MM	1
360	J097	023017590000	JUMPER WIRE 17.5*0.6MM	1
361	J098	023020090000	JUMPER WIRE 20*0.6MM	1
362	J099	023017590000	JUMPER WIRE 17.5*0.6MM	1
363	J100	023012590000	JUMPER WIRE 12.5*0.6mm	1
364	J101	023017590000	JUMPER WIRE 17.5*0.6MM	1
365	J102	023012590000	JUMPER WIRE 12.5*0.6mm	1
366	J103	023015090000	JUMPER WIRE 15*0.6MM	1
367	J104	023020090000	JUMPER WIRE 20*0.6MM	1
368	J105	023010090000	JUMPER WIRE 10*0.6mm	1
369	J106	023010090000	JUMPER WIRE 10*0.6mm	1
370	J107	023010090000	JUMPER WIRE 10*0.6mm	1
371	J108	023010090000	JUMPER WIRE 10*0.6mm	1
372	J109	023010090000	JUMPER WIRE 10*0.6mm	1
373	J110	023012590000	JUMPER WIRE 12.5*0.6mm	1
374	J111	023075080000	JUMPER WIRE 7.5*0.6MM	1
375	J112	023010090000	JUMPER WIRE 10*0.6mm	1
376	J113	023015090000	JUMPER WIRE 15*0.6MM	1
377	J114	023015090000	JUMPER WIRE 15*0.6MM	1
378	LA01	036010000010	RING CORE L:250UH 4A	1
379	LA02	036010000010	RING CORE L:250UH 4A	1
380	LA03	037000001010	FERRITE CORE RH 3.5X6X1.0(W)X2	1
381	LA04	023015090000	JUMPER WIRE 15*0.6MM	1
382	LA05	037000001210	FERRITE CORE A6 RH 3.5X9X0.8-T52	1
383	LA06	037000001010	FERRITE CORE RH 3.5X6X1.0(W)X2	1
384	LA07	037000001010	FERRITE CORE RH 3.5X6X1.0(W)X2	1
385	LA10	037000001010	FERRITE CORE RH 3.5X6X1.0(W)X2	1
386	LC01	034422900601	PEAKING COIL 2.2UH 1/4W K A-T	1
387	LG01	037000000410	BEAD CORE RH 3.5X4.7X1.0MM	1
388	LH01	035001300050	X'FMR EI30 150UH 3A	1
389	LH02	035401250060	X'FMR H-CEN EI25 7.0MH 0.45A	1
390	LH03	023010090000	JUMPER WIRE 10*0.6mm	1
391	LH05	038100000140	LINEARITY COIL 6.6UH -4A	1
392	LH06	036110000180	DRUM CORE L:48UH 2A(10*16)	1
393	MB02	170114020300	WIRE SADDLE/ YJ-203S	1
394	MB03	171201000154	CHASSIS BRACKET LEFT	1
395	MB04	171201000166	CHASSIS BRACKET RIGHT	1
396	MB05	171201000013	CHASSIS BRACKET FRONT	1
397	MB08	171201003201	CHASSIS BRACKET REAR/AT897D	1
398	MB10	172426030602	SCREW,BTCW,M3.0X6L,ZN-CC	1
399	MB11	172426031002	SCREW,BTCW,M3.0X10L,ZN-CC	9
400	MB12	172438040802	SCREW,PBATW,M4.0X8L,ZZ-CC	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
401	MB13	171201001160	CRT SUPPORT AT320DB	1
402	MB14	171203000230	HEAT SINK FOR EMI GS815	1
403	MB15	170115000300	CABLE CLIPS/TA11-4	1
404	MB19	170115000900	SPACER SUPPORTS/FCB-10	6
405	MB20	171201001490	POWER FACTOR BRACKET	1
406	PCB1	017422400332	PCB MAIN/PWR/CTRL BD K1 337x271x1.6t	1
407	PRC01	014110021850	ARRAY RES. A(X) 10Kohm 1/8W J 8P	1
408	QA01	042010020508	POWER MOS 2SK958 TO-3P (800V 9A)	1
409	QA01H	171204001301	HEAT SINK 60WX15TX80H-40H	1
410	QA01R	170111000100	SILICON RUBBER/TO-3P3	1
411	QA01S	172417031002	SCREW,PB,M3.0X10L,ZN-CC	1
412	QA02	041020001110	TRANSISTOR 2SC945P TO-92 T	1
413	QA04	041020001110	TRANSISTOR 2SC945P TO-92 T	1
414	QA07	041020001110	TRANSISTOR 2SC945P TO-92 T	1
415	QA09	041020001110	TRANSISTOR 2SC945P TO-92 T	1
416	QA10	041000001109	TRANSISTOR 2SA733P TO-92 T	1
417	QA11	041020001110	TRANSISTOR 2SC945P TO-92 T	1
418	QB03	041020001110	TRANSISTOR 2SC945P TO-92 T	1
419	QB04	041000001109	TRANSISTOR 2SA733P TO-92 T	1
420	QB05	041020001110	TRANSISTOR 2SC945P TO-92 T	1
421	QC05	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
422	QC06	041020001110	TRANSISTOR 2SC945P TO-92 T	1
423	QC07	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
424	QC08	041020001110	TRANSISTOR 2SC945P TO-92 T	1
425	QC10	041020001110	TRANSISTOR 2SC945P TO-92 T	1
426	QC11	041020001110	TRANSISTOR 2SC945P TO-92 T	1
427	QC14	041000001109	TRANSISTOR 2SA733P TO-92 T	1
428	QE01	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
429	QE02	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
430	QE05	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
431	QE06	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
432	QE07	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
433	QE08	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
434	QE09	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
435	QE10	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
436	QG01	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
437	QG03	042010015401	POWER MOS IRF740 TO-220 3PIN	1
438	QG03H	171204000241	HEAT SINK (60.1W*45H*15T) GS815	1
439	QG03R	170111000801	SILICON RUBBER /TO1633(30)	1
440	QG03S	172417031202	SCREW,PB,M3.0X12L,ZN-CC	1
441	QG03W	170106000200	TRANSISTOR COVER / TR-08	1
442	QG04	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
443	QG05	041040002111	TRANSISTOR BF421 TO-92 T	1
444	QG06	041040001111	TRANSISTOR BF420 TO-92 T	1
445	QG07	041000001109	TRANSISTOR 2SA733P TO-92 T	1
446	QG08	041040003105	TRANSISTOR BF422 TO-92 T	1
447	QG09	041030003306	TRANSISTOR 2SD669AC TO-126	1
448	QG09H	171204000202	HEAT SINK (15W*11T*40.0H)	1
449	QG09S	172417030602	SCREW,PB,M3.0X6L,ZN-CC	1
450	QG10	041010001306	TRANSISTOR 2SB649AC TO-126	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
451	QG10H	171204000202	HEAT SINK (15W*11T*40.0H)	1
452	QG10S	172417030602	SCREW,PB,M3.0X6L,ZN-CC	1
453	QG11	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
454	QG12	041020001110	TRANSISTOR 2SC945P TO-92 T	1
455	QG13	041020001110	TRANSISTOR 2SC945P TO-92 T	1
456	QG14	041020001110	TRANSISTOR 2SC945P TO-92 T	1
457	QG15	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
458	QG16	041020001110	TRANSISTOR 2SC945P TO-92 T	1
459	QG17	041020001110	TRANSISTOR 2SC945P TO-92 T	1
460	QG18	041020001110	TRANSISTOR 2SC945P TO-92 T	1
461	QG19	041040001111	TRANSISTOR BF420 TO-92 T	1
462	QG20	041040002111	TRANSISTOR BF421 TO-92 T	1
463	QH01	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
464	QH02	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
465	QH05	041020001110	TRANSISTOR 2SC945P TO-92 T	1
466	QH06	041020015516	TR NPN 2SC5584 1500V 20A TOP-3L	1
467	QH06H1	171204000220	HEAT SINK (84W*100H*15T) GS815	1
468	QH06H2	171204000230	HEAT SINK (84W*83.2H*15T) GS815	1
469	QH06R	170111001000	SILICON RUBBER / TO-3025	1
470	QH06S1	172417030802	SCREW,PB,M3.0X8L,ZN-CC	1
471	QH06S2	172427031202	SCREW,BRC,M3.0X12L,ZN-CC	5
472	QH07	041060001311	TRANSISTOR BD139 TO-126	1
473	QH07N	191030050002	NUT M3.0X0.5,ZN-CC	1
474	QH07S	172417030802	SCREW,PB,M3.0X8L,ZN-CC	1
475	QH08	041060002311	TRANSISTOR BD140 TO-126	1
476	QH09	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
477	QH10	041020001110	TRANSISTOR 2SC945P TO-92 T	1
478	QH12	042010002407	POWER MOS IRF640 TO-220	1
479	QH12H	171203000260	HEAT SINK FOR QH12	1
480	QH13	042010002407	POWER MOS IRF640 TO-220	1
481	QH13H	171204000202	HEAT SINK (15W*11T*40.0H)	1
482	QH13R	170111000200	SILICON RUBBER/TO-2203	1
483	QH13S	172417030602	SCREW,PB,M3.0X6L,ZN-CC	1
484	QH13W	170113000100	TRANSISTOR WASHER/602S	1
485	QH14	042010002407	POWER MOS IRF640 TO-220	1
486	QH14H	171204001201	HEAT SINK (15WX11TX60H)	1
487	QH14R	170111000200	SILICON RUBBER/TO-2203	1
488	QH14S	172417030602	SCREW,PB,M3.0X6L,ZN-CC	1
489	QH14W	170113000100	TRANSISTOR WASHER/602S	1
490	QH15	041020001110	TRANSISTOR 2SC945P TO-92 T	1
491	QH16	041020001110	TRANSISTOR 2SC945P TO-92 T	1
492	QH17	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
493	QH18	041000001109	TRANSISTOR 2SA733P TO-92 T	1
494	QH19	042010001401	POWER MOS IRF630 TO-220	1
495	QH20	041000001109	TRANSISTOR 2SA733P TO-92 T	1
496	QH21	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
497	QH22	042010015401	POWER MOS IRF740 TO-220 3PIN	1
498	QH22H	171204001401	HEAT SINK (23.5WX16.5TX50H)	1
499	QH22R	170111000200	SILICON RUBBER/TO-2203	1
500	QH22S	172417030602	SCREW,PB,M3.0X6L,ZN-CC	1

Confidential – Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
501	QH22W	170113000100	TRANSISTOR WASHER/602S	1
502	QH24	041020001110	TRANSISTOR 2SC945P TO-92 T	1
503	QH25	041020001110	TRANSISTOR 2SC945P TO-92 T	1
504	QH26	041020001110	TRANSISTOR 2SC945P TO-92 T	1
505	QH28	041060001311	TRANSISTOR BD139 TO-126	1
506	QH28H	171204000100	HEAT SINK (12WX5TX22H)	1
507	QH28S	172417030602	SCREW,PB,M3.0X6L,ZN-CC	1
508	QX01	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
509	QX02	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
510	QX03	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
511	QX04	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
512	QX05	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
513	QX06	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
514	QX07	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
515	QX08	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
516	QX09	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
517	QX10	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
518	QX11	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
519	QX12	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
520	QX13	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
521	QX14	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
522	QX15	041000002106	TRANSISTOR 2SA673AC TO-92 T	1
523	QX16	041020003106	TRANSISTOR 2SC1213AC TO-92 T	1
524	RA01	013010041250	RES. CF 1.0Mohm 1/2W J A	1
525	RA03	013047020152	RES. CF 47Kohm 1W J A-FK	1
526	RA04	013010001850	RES. CF 100ohm 1/8W J A	1
527	RA06	013033091450	RES. CF 33ohm 1/4W J A	1
528	RA07	013047081450	RES. CF 4.7ohm 1/4W J A	1
529	RA08	013010021450	RES. CF 10Kohm 1/4W J A	1
530	RA09	013010011450	RES. CF 1.0Kohm 1/4W J A	1
531	RA10	013047011850	RES. CF 4.7Kohm 1/8W J A	1
532	RA11	013201280252	RES. MOF 0.12ohm 2W J A-FK	1
533	RA12	013027021850	RES. CF 27Kohm 1/8W J A	1
534	RA13	013012021450	RES. CF 12Kohm 1/4W J A	1
535	RA14	013047001850	RES. CF 470ohm 1/8W J A	1
536	RA15	013010031850	RES. CF 100Kohm 1/8W J A	1
537	RA16	013010021450	RES. CF 10Kohm 1/4W J A	1
538	RA17	013010021450	RES. CF 10Kohm 1/4W J A	1
539	RA18	013010091450	RES. CF 10ohm 1/4W J A	1
540	RA19	013010091450	RES. CF 10ohm 1/4W J A	1
541	RA20	013022011450	RES. CF 2.2Kohm 1/4W J A	1
542	RA21	013033091250	RES. CF 33ohm 1/2W J A	1
543	RA22	013212030152	RES. MOF 120Kohm 1W J A-FK	1
544	RA23	013262020112	RES. MOF 62Kohm 1W F A-FK	1
545	RA24	013120011410	RES. MF 2.00Kohm 1/4W F A	1
546	RA25	013022031850	RES. CF 220Kohm 1/8W J A	1
547	RA26	013010011450	RES. CF 1.0Kohm 1/4W J A	1
548	RA27	013010021850	RES. CF 10Kohm 1/8W J A	1
549	RA28	013010001450	RES. CF 100ohm 1/4W J A	1
550	RA29	013010001850	RES. CF 100ohm 1/8W J A	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
551	RA31	013047011250	RES. CF 4.7Kohm 1/2W J A	1
552	RA32	013010011450	RES. CF 1.0Kohm 1/4W J A	1
553	RA33	013010021850	RES. CF 10Kohm 1/8W J A	1
554	RA34	013010091450	RES. CF 10ohm 1/4W J A	1
555	RA35	013268000252	RES. MOF 680ohm 2W J A-FK	1
556	RA36	013010091850	RES. CF 10ohm 1/8W J A	1
557	RA37	013030011450	RES. CF 3.0Kohm 1/4W J A	1
558	RA38	013203380252	RES. MOF 0.33ohm 2W J A-FK	1
559	RA40	013010011850	RES. CF 1.0Kohm 1/8W J A	1
560	RA41	013268020252	RES. MOF 68Kohm 2W J A-FK	1
561	RA42	013268020252	RES. MOF 68Kohm 2W J A-FK	1
562	RA43	013010091850	RES. CF 10ohm 1/8W J A	1
563	RA44	013010081850	RES. CF 1.0ohm 1/8W J A	1
564	RA45	013020001850	RES. CF 200ohm 1/8W J A	1
565	RA46	013051091254	RES. CF 51ohm 1/2W J R-K	1
566	RA47	013126121410	RES. MF 26.1Kohm 1/4W F A	1
567	RA48	013010021850	RES. CF 10Kohm 1/8W J A	1
568	RA49	013022011850	RES. CF 2.2Kohm 1/8W J A	1
569	RA50	013010011450	RES. CF 1.0Kohm 1/4W J A	1
570	RA51	013010021850	RES. CF 10Kohm 1/8W J A	1
571	RA52	013010021850	RES. CF 10Kohm 1/8W J A	1
572	RA68	013010031450	RES. CF 100Kohm 1/4W J A	1
573	RB01	013047011450	RES. CF 4.7Kohm 1/4W J A	1
574	RB02	013018021850	RES. CF 18Kohm 1/8W J A	1
575	RB03	013010001450	RES. CF 100ohm 1/4W J A	1
576	RB04	013068011850	RES. CF 6.8Kohm 1/8W J A	1
577	RB05	013051021850	RES. CF 51Kohm 1/8W J A	1
578	RB06	013024011450	RES. CF 2.4Kohm 1/4W J A	1
579	RB07	013010021450	RES. CF 10Kohm 1/4W J A	1
580	RB08	013012021450	RES. CF 12Kohm 1/4W J A	1
581	RB10	013010021450	RES. CF 10Kohm 1/4W J A	1
582	RB11	013047081450	RES. CF 4.7ohm 1/4W J A	1
583	RB12	013010001450	RES. CF 100ohm 1/4W J A	1
584	RB14	013010021850	RES. CF 10Kohm 1/8W J A	1
585	RB15	013033011850	RES. CF 3.3Kohm 1/8W J A	1
586	RB16	013010021850	RES. CF 10Kohm 1/8W J A	1
587	RB17	013010011850	RES. CF 1.0Kohm 1/8W J A	1
588	RB18	013010011850	RES. CF 1.0Kohm 1/8W J A	1
589	RB20	013015011450	RES. CF 1.5Kohm 1/4W J A	1
590	RB21	013010001450	RES. CF 100ohm 1/4W J A	1
591	RB22	013010001450	RES. CF 100ohm 1/4W J A	1
592	RB23	013022021850	RES. CF 22Kohm 1/8W J A	1
593	RB24	013033011850	RES. CF 3.3Kohm 1/8W J A	1
594	RB25	013168101810	RES. MF 681ohm 1/8W F A	1
595	RB26	013127411810	RES. MF 2.74Kohm 1/8W F A	1
596	RB27	013010001450	RES. CF 100ohm 1/4W J A	1
597	RB28	013112121410	RES. MF 12.1Kohm 1/4W F A	1
598	RB29	013161911410	RES. MF 6.19Kohm 1/4W F A	1
599	RB30	013210080252	RES. MOF 1ohm 2W J A-FK	1
600	RB31	023020090000	JUMPER WIRE 20*0.6MM	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
601	RB32	013015081450	RES. CF 1.5ohm 1/4W J A	1
602	RB33	013112121410	RES. MF 12.1Kohm 1/4W F A	1
603	RB34	013161911810	RES. MF 6.19Kohm 1/8W F A	1
604	RB35	013210080252	RES. MOF 1ohm 2W J A-FK	1
605	RB36	013051001250	RES. CF 510ohm 1/2W J A	1
606	RB37	013010001850	RES. CF 100ohm 1/8W J A	1
607	RB43	013047011850	RES. CF 4.7Kohm 1/8W J A	1
608	RB44	023050080000	JUMPER WIRE 5.0*0.6MM	1
609	RB45	013010021850	RES. CF 10Kohm 1/8W J A	1
610	RB46	013030011850	RES. CF 3.0Kohm 1/8W J A	1
611	RB47	013010091450	RES. CF 10ohm 1/4W J A	1
612	RB51	013010021450	RES. CF 10Kohm 1/4W J A	1
613	RB52	013010021450	RES. CF 10Kohm 1/4W J A	1
614	RB54	013010001850	RES. CF 100ohm 1/8W J A	1
615	RB62	013033091450	RES. CF 33ohm 1/4W J A	1
616	RB63	013010011850	RES. CF 1.0Kohm 1/8W J A	1
617	RC01	013010001850	RES. CF 100ohm 1/8W J A	1
618	RC02	013022011450	RES. CF 2.2Kohm 1/4W J A	1
619	RC04	013010021850	RES. CF 10Kohm 1/8W J A	1
620	RC05	013010021850	RES. CF 10Kohm 1/8W J A	1
621	RC07	013047011850	RES. CF 4.7Kohm 1/8W J A	1
622	RC10	013010051850	RES. CF 10Mohm 1/8W J A	1
623	RC11	013010001850	RES. CF 100ohm 1/8W J A	1
624	RC12	013010001450	RES. CF 100ohm 1/4W J A	1
625	RC13	013020021450	RES. CF 20Kohm 1/4W J A	1
626	RC14	013020021450	RES. CF 20Kohm 1/4W J A	1
627	RC15	013020021850	RES. CF 20Kohm 1/8W J A	1
628	RC16	013015021450	RES. CF 15Kohm 1/4W J A	1
629	RC17	013010021850	RES. CF 10Kohm 1/8W J A	1
630	RC18	013010001850	RES. CF 100ohm 1/8W J A	1
631	RC20	013022011850	RES. CF 2.2Kohm 1/8W J A	1
632	RC22	013010001850	RES. CF 100ohm 1/8W J A	1
633	RC23	013010001850	RES. CF 100ohm 1/8W J A	1
634	RC25	013022011450	RES. CF 2.2Kohm 1/4W J A	1
635	RC26	013010001450	RES. CF 100ohm 1/4W J A	1
636	RC27	013010011850	RES. CF 1.0Kohm 1/8W J A	1
637	RC31	013020021450	RES. CF 20Kohm 1/4W J A	1
638	RC32	013010001450	RES. CF 100ohm 1/4W J A	1
639	RC33	013010001850	RES. CF 100ohm 1/8W J A	1
640	RC34	013010001850	RES. CF 100ohm 1/8W J A	1
641	RC35	013022011850	RES. CF 2.2Kohm 1/8W J A	1
642	RC36	013047011850	RES. CF 4.7Kohm 1/8W J A	1
643	RC37	013022011850	RES. CF 2.2Kohm 1/8W J A	1
644	RC38	013022011450	RES. CF 2.2Kohm 1/4W J A	1
645	RC39	013047011450	RES. CF 4.7Kohm 1/4W J A	1
646	RC40	013022011850	RES. CF 2.2Kohm 1/8W J A	1
647	RC41	013020021850	RES. CF 20Kohm 1/8W J A	1
648	RC42	013047011450	RES. CF 4.7Kohm 1/4W J A	1
649	RC43	013010001450	RES. CF 100ohm 1/4W J A	1
650	RC44	013010021850	RES. CF 10Kohm 1/8W J A	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
651	RC45	013010001850	RES. CF 100ohm 1/8W J A	1
652	RC48	013010011450	RES. CF 1.0Kohm 1/4W J A	1
653	RC49	013010021850	RES. CF 10Kohm 1/8W J A	1
654	RC50	013020021450	RES. CF 20Kohm 1/4W J A	1
655	RC51	013010011450	RES. CF 1.0Kohm 1/4W J A	1
656	RC52	013010001450	RES. CF 100ohm 1/4W J A	1
657	RC53	013010011850	RES. CF 1.0Kohm 1/8W J A	1
658	RC54	013047011850	RES. CF 4.7Kohm 1/8W J A	1
659	RC55	013010011850	RES. CF 1.0Kohm 1/8W J A	1
660	RC56	013010011850	RES. CF 1.0Kohm 1/8W J A	1
661	RC57	013047011850	RES. CF 4.7Kohm 1/8W J A	1
662	RC58	013047011850	RES. CF 4.7Kohm 1/8W J A	1
663	RC59	013010011450	RES. CF 1.0Kohm 1/4W J A	1
664	RC60	013020011850	RES. CF 2.0Kohm 1/8W J A	1
665	RC62	013010011850	RES. CF 1.0Kohm 1/8W J A	1
666	RC63	013020001850	RES. CF 200ohm 1/8W J A	1
667	RC65	013047011850	RES. CF 4.7Kohm 1/8W J A	1
668	RC67	013010011850	RES. CF 1.0Kohm 1/8W J A	1
669	RC70	013047011850	RES. CF 4.7Kohm 1/8W J A	1
670	RC73	013010021250	RES. CF 10Kohm 1/2W J A	1
671	RC74	013047011450	RES. CF 4.7Kohm 1/4W J A	1
672	RC75	013047011450	RES. CF 4.7Kohm 1/4W J A	1
673	RC76	013047011450	RES. CF 4.7Kohm 1/4W J A	1
674	RC77	013047001850	RES. CF 470ohm 1/8W J A	1
675	RC78	013047001850	RES. CF 470ohm 1/8W J A	1
676	RC79	013047001850	RES. CF 470ohm 1/8W J A	1
677	RC80	013068091450	RES. CF 68ohm 1/4W J A	1
678	RC81	013068091450	RES. CF 68ohm 1/4W J A	1
679	RC82	013010001850	RES. CF 100ohm 1/8W J A	1
680	RE01	013033021850	RES. CF 33Kohm 1/8W J A	1
681	RE02	013010031450	RES. CF 100Kohm 1/4W J A	1
682	RE07	013075091250	RES. CF 75ohm 1/2W J A	1
683	RE08	013051091450	RES. CF 51ohm 1/4W J A	1
684	RE10	013010091850	RES. CF 10ohm 1/8W J A	1
685	RE13	013033021450	RES. CF 33Kohm 1/4W J A	1
686	RE14	013010031450	RES. CF 100Kohm 1/4W J A	1
687	RE15	013075091250	RES. CF 75ohm 1/2W J A	1
688	RE16	013051091450	RES. CF 51ohm 1/4W J A	1
689	RE17	013033021450	RES. CF 33Kohm 1/4W J A	1
690	RE18	013010031450	RES. CF 100Kohm 1/4W J A	1
691	RE19	013075091250	RES. CF 75ohm 1/2W J A	1
692	RE20	013051091450	RES. CF 51ohm 1/4W J A	1
693	RE21	013010021850	RES. CF 10Kohm 1/8W J A	1
694	RE22	013016011450	RES. CF 1.6Kohm 1/4W J A	1
695	RE24	013043091450	RES. CF 43ohm 1/4W J A	1
696	RE25	013075091250	RES. CF 75ohm 1/2W J A	1
697	RE26	013010031450	RES. CF 100Kohm 1/4W J A	1
698	RE29	013010031450	RES. CF 100Kohm 1/4W J A	1
699	RE30	013033021450	RES. CF 33Kohm 1/4W J A	1
700	RG01	013010011850	RES. CF 1.0Kohm 1/8W J A	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
701	RG02	013010081450	RES. CF 1.0ohm 1/4W J A	1
702	RG03	013033011850	RES. CF 3.3Kohm 1/8W J A	1
703	RG04	013010011850	RES. CF 1.0Kohm 1/8W J A	1
704	RG05	013047011850	RES. CF 4.7Kohm 1/8W J A	1
705	RG08	013020021450	RES. CF 20Kohm 1/4W J A	1
706	RG09	013027021850	RES. CF 27Kohm 1/8W J A	1
707	RG10	013056011850	RES. CF 5.6Kohm 1/8W J A	1
708	RG11	013047011850	RES. CF 4.7Kohm 1/8W J A	1
709	RG12	013047041850	RES. CF 4.7Mohm 1/8W J A	1
710	RG13	013010021850	RES. CF 10Kohm 1/8W J A	1
711	RG14	013075011850	RES. CF 7.5Kohm 1/8W J A	1
712	RG15	013030021850	RES. CF 30Kohm 1/8W J A	1
713	RG16	013024031850	RES. CF 240Kohm 1/8W J A	1
714	RG17	013036031850	RES. CF 360Kohm 1/8W J A	1
715	RG18	013047091450	RES. CF 47ohm 1/4W J A	1
716	RG20	013047011850	RES. CF 4.7Kohm 1/8W J A	1
717	RG21	013022001450	RES. CF 220ohm 1/4W J A	1
718	RG22	013222080252	RES. MOF 2.2ohm 2W J A-FK	1
719	RG23	013047091450	RES. CF 47ohm 1/4W J A	1
720	RG24	013022021850	RES. CF 22Kohm 1/8W J A	1
721	RG26	013022021850	RES. CF 22Kohm 1/8W J A	1
722	RG27	013010021450	RES. CF 10Kohm 1/4W J A	1
723	RG28	013015021850	RES. CF 15Kohm 1/8W J A	1
724	RG30	013010011850	RES. CF 1.0Kohm 1/8W J A	1
725	RG31	013047091450	RES. CF 47ohm 1/4W J A	1
726	RG32	013010031450	RES. CF 100Kohm 1/4W J A	1
727	RG33	013033011450	RES. CF 3.3Kohm 1/4W J A	1
728	RG34	013010031450	RES. CF 100Kohm 1/4W J A	1
729	RG35	013212030252	RES. MOF 120Kohm 2W J A-FK	1
730	RG37	013056011850	RES. CF 5.6Kohm 1/8W J A	1
731	RG38	013047011850	RES. CF 4.7Kohm 1/8W J A	1
732	RG39	013015011850	RES. CF 1.5Kohm 1/8W J A	1
733	RG40	013010031850	RES. CF 100Kohm 1/8W J A	1
734	RG41	013012031850	RES. CF 120Kohm 1/8W J A	1
735	RG42	013010011250	RES. CF 1.0Kohm 1/2W J A	1
736	RG43	013010011850	RES. CF 1.0Kohm 1/8W J A	1
737	RG44	013010021850	RES. CF 10Kohm 1/8W J A	1
738	RG45	013047011850	RES. CF 4.7Kohm 1/8W J A	1
739	RG46	013047011850	RES. CF 4.7Kohm 1/8W J A	1
740	RG47	013010021450	RES. CF 10Kohm 1/4W J A	1
741	RG49	013091031450	RES. CF 910Kohm 1/4W J A	1
742	RG50	013043011850	RES. CF 4.3Kohm 1/8W J A	1
743	RG51	013020031250	RES. CF 200Kohm 1/2W J A	1
744	RG52	013010011450	RES. CF 1.0Kohm 1/4W J A	1
745	RG53	013018011850	RES. CF 1.8Kohm 1/8W J A	1
746	RG54	013047091850	RES. CF 47ohm 1/8W J A	1
747	RG55	013020021450	RES. CF 20Kohm 1/4W J A	1
748	RG56	013010091850	RES. CF 10ohm 1/8W J A	1
749	RG57	013010091850	RES. CF 10ohm 1/8W J A	1
750	RG58	013024091450	RES. CF 24ohm 1/4W J A	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
751	RG59	013020021450	RES. CF 20Kohm 1/4W J A	1
752	RG60	013082001850	RES. CF 820ohm 1/8W J A	1
753	RG61	013082011850	RES. CF 8.2Kohm 1/8W J A	1
754	RG62	013210090152	RES. MOF 10ohm 1W J A-FK	1
755	RG63	013068031850	RES. CF 680Kohm 1/8W J A	1
756	RG65	013051001850	RES. CF 510ohm 1/8W J A	1
757	RG66	013010031850	RES. CF 100Kohm 1/8W J A	1
758	RG67	013056011850	RES. CF 5.6Kohm 1/8W J A	1
759	RG68	013010021850	RES. CF 10Kohm 1/8W J A	1
760	RG69	013027001850	RES. CF 270ohm 1/8W J A	1
761	RG70	013010011850	RES. CF 1.0Kohm 1/8W J A	1
762	RG72	013027011850	RES. CF 2.7Kohm 1/8W J A	1
763	RG73	013010091850	RES. CF 10ohm 1/8W J A	1
764	RG74	013010011850	RES. CF 1.0Kohm 1/8W J A	1
765	RG75	013051001850	RES. CF 510ohm 1/8W J A	1
766	RH01	013012021850	RES. CF 12Kohm 1/8W J A	1
767	RH02	013010021450	RES. CF 10Kohm 1/4W J A	1
768	RH03	013166511810	RES. MF 6.65Kohm 1/8W F A	1
769	RH04	013068011850	RES. CF 6.8Kohm 1/8W J A	1
770	RH05	013010011450	RES. CF 1.0Kohm 1/4W J A	1
771	RH06	013012031850	RES. CF 120Kohm 1/8W J A	1
772	RH07	013022021450	RES. CF 22Kohm 1/4W J A	1
773	RH09	013010001450	RES. CF 100ohm 1/4W J A	1
774	RH10	013010031850	RES. CF 100Kohm 1/8W J A	1
775	RH11	013012031450	RES. CF 120Kohm 1/4W J A	1
776	RH12	013024031850	RES. CF 240Kohm 1/8W J A	1
777	RH14	013068011850	RES. CF 6.8Kohm 1/8W J A	1
778	RH15	013010021850	RES. CF 10Kohm 1/8W J A	1
779	RH16	013010091850	RES. CF 10ohm 1/8W J A	1
780	RH17	013039001250	RES. CF 390ohm 1/2W J A	1
781	RH18	013010011450	RES. CF 1.0Kohm 1/4W J A	1
782	RH20	013033021850	RES. CF 33Kohm 1/8W J A	1
783	RH21	013010091850	RES. CF 10ohm 1/8W J A	1
784	RH22	013082021850	RES. CF 82Kohm 1/8W J A	1
785	RH24	013010021850	RES. CF 10Kohm 1/8W J A	1
786	RH25	023050080000	JUMPER WIRE 5.0*0.6MM	1
787	RH26	013010011450	RES. CF 1.0Kohm 1/4W J A	1
788	RH27	013010011850	RES. CF 1.0Kohm 1/8W J A	1
789	RH28	013247020252	RES. MOF 47Kohm 2W J A-FK	1
790	RH30	013010021850	RES. CF 10Kohm 1/8W J A	1
791	RH31	013010091450	RES. CF 10ohm 1/4W J A	1
792	RH32	013010021850	RES. CF 10Kohm 1/8W J A	1
793	RH33	013022091450	RES. CF 22ohm 1/4W J A	1
794	RH34	013212080252	RES. MOF 1.2ohm 2W J A-FK	1
795	RH36	013010021850	RES. CF 10Kohm 1/8W J A	1
796	RH41	013510080551	RES. CEMENT 1ohm 5W J SQM	1
797	RH42	013201580150	RES. MOF 0.15ohm 1W J A	1
798	RH43	013222000152	RES. MOF 220ohm 1W J A-FK	1
799	RH44	013010091450	RES. CF 10ohm 1/4W J A	1
800	RH45	013047001850	RES. CF 470ohm 1/8W J A	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
801	RH46	013215090254	RES. MOF 15ohm 2W J R-K	1
802	RH47	013010011450	RES. CF 1.0Kohm 1/4W J A	1
803	RH50	013010011850	RES. CF 1.0Kohm 1/8W J A	1
804	RH51	013027091450	RES. CF 27ohm 1/4W J A	1
805	RH52	013320080552	RES. MOF(M) 2ohm 5W J A-FK	1
806	RH53	013047001250	RES. CF 470ohm 1/2W J A	1
807	RH54	013047091450	RES. CF 47ohm 1/4W J A	1
808	RH55	013210000252	RES. MOF 100ohm 2W J A-FK	1
809	RH56	013010011850	RES. CF 1.0Kohm 1/8W J A	1
810	RH57	013010021850	RES. CF 10Kohm 1/8W J A	1
811	RH58	013010021850	RES. CF 10Kohm 1/8W J A	1
812	RH59	013282080252	RES. MOF 8.2ohm 2W J A-FK	1
813	RH60	013320080552	RES. MOF(M) 2ohm 5W J A-FK	1
814	RH61	013010021850	RES. CF 10Kohm 1/8W J A	1
815	RH62	013020011850	RES. CF 2.0Kohm 1/8W J A	1
816	RH63	013033091450	RES. CF 33ohm 1/4W J A	1
817	RH64	013047011850	RES. CF 4.7Kohm 1/8W J A	1
818	RH65	013022021450	RES. CF 22Kohm 1/4W J A	1
819	RH66	013022021450	RES. CF 22Kohm 1/4W J A	1
820	RH67	013022021450	RES. CF 22Kohm 1/4W J A	1
821	RH68	013022021450	RES. CF 22Kohm 1/4W J A	1
822	RH70	023015090000	JUMPER WIRE 15*0.6MM	1
823	RH71	013047091850	RES. CF 47ohm 1/8W J A	1
824	RH72	013047021850	RES. CF 47Kohm 1/8W J A	1
825	RH73	013010011450	RES. CF 1.0Kohm 1/4W J A	1
826	RH74	013010011450	RES. CF 1.0Kohm 1/4W J A	1
827	RH75	013010011450	RES. CF 1.0Kohm 1/4W J A	1
828	RH76	013130121410	RES. MF 30.1Kohm 1/4W F A	1
829	RH77	013047011850	RES. CF 4.7Kohm 1/8W J A	1
830	RH78	013033011850	RES. CF 3.3Kohm 1/8W J A	1
831	RH79	013010011450	RES. CF 1.0Kohm 1/4W J A	1
832	RH80	013010021850	RES. CF 10Kohm 1/8W J A	1
833	RH81	013022021450	RES. CF 22Kohm 1/4W J A	1
834	RH82	013024031450	RES. CF 240Kohm 1/4W J A	1
835	RLA01	025212502012	RELAY 2POLES 250V/5A/12VDC ST	1
836	RLH01	025112100016	RELAY 1POLES 240V/10A/12VDC DT	1
837	RX01	013010001850	RES. CF 100ohm 1/8W J A	1
838	RX02	013010001850	RES. CF 100ohm 1/8W J A	1
839	RX03	013047001850	RES. CF 470ohm 1/8W J A	1
840	RX04	013047001850	RES. CF 470ohm 1/8W J A	1
841	RX05	013027091450	RES. CF 27ohm 1/4W J A	1
842	RX06	013027091450	RES. CF 27ohm 1/4W J A	1
843	RX07	013047001850	RES. CF 470ohm 1/8W J A	1
844	RX08	013047001850	RES. CF 470ohm 1/8W J A	1
845	RX09	013027091450	RES. CF 27ohm 1/4W J A	1
846	RX10	013027091450	RES. CF 27ohm 1/4W J A	1
847	RX11	013047001850	RES. CF 470ohm 1/8W J A	1
848	RX12	013047001850	RES. CF 470ohm 1/8W J A	1
849	RX13	013027091450	RES. CF 27ohm 1/4W J A	1
850	RX14	013027091450	RES. CF 27ohm 1/4W J A	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
851	RX15	013047001850	RES. CF 470ohm 1/8W J A	1
852	RX16	013047001850	RES. CF 470ohm 1/8W J A	1
853	RX17	013027091450	RES. CF 27ohm 1/4W J A	1
854	RX18	013027091450	RES. CF 27ohm 1/4W J A	1
855	SWA01B	171201000470	AC BRACKET AT1099DA	1
856	TA01	035202000040	LINE FILTER ET-28 15MH-15MH 0.6@*58T	1
857	TA02	035004190030	X'FMR EEL19 5.5MH AT1099DA	1
858	TA03	035002420090	X'FMR EE4215 105uH (21"&22")	1
859	TA04	035306000010	X'FMR SYNC UU10.5 1.75-1.75MH	1
860	TG01	048000000100	F.B.T. 26.5KV 3000PF (CF1043E)	1
861	TG02	035101250020	X'FMR EI25 24:240 TS	1
862	THA02	016180920030	POSISTOR 8ohm 20A 2P	1
863	THA03	016050910020	NTCR SCK-0510 5ohm 10A F7.5	1
864	TH02	035102130010	X'FMR EE13 35MH 250:1	1
865	TH03	035101220010	X'FMR DRIVE EI22 2MH-80UH	1
866	VRG01	015110331002	SVR M/STAND/B 10Kohm B 6	1
867	VRH01	015110231001	SVR M/STAND/B 1Kohm B 6	1
868	VRH02	015120231001	SVR M/STAND/B 2Kohm B 6	1
869	WA01	026200000012	AC SOCKET 0714C PCB TYPE	1
870	WA01W	046017010041	WH SRA4.3@ 80MM 1015#18 G/Y	1
871	WA02	045110000294	WAFER 10MM 2P/WHITE	1
872	WA03	045139630154	WAFER 3.96MM 3P-1 180'	1
873	WA06	046011020020	WH XH2P-SCN2P 1185#26 280MM	1
874	WA08	045525403079	WAFER 2*15P 2.54MM 180'	1
875	WA08PB	302100220157	ASS'Y POWER FACTOR BD P220f,P95f	1
876	WB01	046011120050	WH XH12P-SCN12P 1007#24 180mm + CORE	1
877	WC01	045125000414	WAFER 2.50MM 4P 180' KINK	1
878	WC08	046011090040	WH XH9P-SCN7P/2P 1007#24 150/170mm	1
879	WE01	045125000214	WAFER 2.50MM 2P 180' KINK	1
880	WE02	045125000214	WAFER 2.50MM 2P 180' KINK	1
881	WE03	045125000214	WAFER 2.50MM 2P 180' KINK	1
882	WE04	045125000314	WAFER 2.50MM 3P 180' KINK	1
883	WG01	045925400277	PIN HEADER 2.54MM2P 180'11.6MM	1
884	WH02	045139630154	WAFER 3.96MM 3P-1 180'	1
885	WH03	045139600654	WAFER 3.96MM 6P 180'	1
886	WH05	045139630154	WAFER 3.96MM 3P-1 180'	1
887	WH05R	013590082053	RES. CENMENT 8ohm 20W J SQHG	1
888	WH05S	172426030602	SCREW,BTCW,M3.0X6L,ZN-CC	9
889	WH05W	046012030100	WH VHR3P 1015#18 120/100MM BLACK	1
890	WX01	045125000214	WAFER 2.50MM 2P 180' KINK	1
891	WX02	045125000214	WAFER 2.50MM 2P 180' KINK	1
892	WX03	045125000214	WAFER 2.50MM 2P 180' KINK	1
893	WX04	045125000214	WAFER 2.50MM 2P 180' KINK	1
894	XTAC01	028010000015	X'TAL 10MHZ 49/U 30PPM 30PF 1MW	1
895	ZDA02	040017512000	ZENER 18-2 17.5-18.3V 1/2W	1
896	ZDA03	040023612000	ZENER 24-2 23.6-24.3V 1/2W	1
897	ZDA04	040008912000	ZENER 9C1 8.9-9.3V 1/2W	1
898	ZDB01	040034212000	ZENER 36-1 34.2-35.7V 1/2W	1
899	ZDC02	040005812000	ZENER 6C1 5.8-6.1V 1/2W	1
900	ZDC03	040005812000	ZENER 6C1 5.8-6.1V 1/2W	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
901	ZDG01	040003812000	ZENER 4B2 3.8-4.0V 1/2W	1
902	ZDH01	040012612000	ZENER 12B2 12.6-13.1V 1/2W	1
903	ZDH04	040012612000	ZENER 12B2 12.6-13.1V 1/2W	1

Confidential -- Do Not Copy

11.6. 302101120151 ASS'Y VIDEO BD AT320DB (ICV02:VPS16)

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
1	CV01	010111001511	E/C GEN. 10UF 50V 105' F	1
2	CV02	010111001511	E/C GEN. 10UF 50V 105' F	1
3	CV03	010111001511	E/C GEN. 10UF 50V 105' F	1
4	CV04	010111011211	E/C GEN. 100UF 16V 105' F	1
5	CV05	010111011211	E/C GEN. 100UF 16V 105' F	1
6	CV06	010114701211	E/C GEN. 47UF 16V 105' F	1
7	CV07	010112211211	E/C GEN. 220UF 16V 105' F	1
8	CV08	011138225115	C/M MULTI 8200PF 50V X7R 0805	1
9	CV09	010114701211	E/C GEN. 47UF 16V 105' F	1
10	CV10	010114702212	E/C GEN. 47UF 200V 105' K	1
11	CV11	011111035222	C/C DISK 0.01UF 500V Z5U F-K	1
12	CV13	011133905105	C/M MULTI 39PF 50V NPO 0805	1
13	CV14	011111035222	C/C DISK 0.01UF 500V Z5U F-K	1
14	CV15	011123305202	C/C DISK 33PF 500V NPO F-K	1
15	CV16	011111035222	C/C DISK 0.01UF 500V Z5U F-K	1
16	CV17	010111012012	E/C GEN. 100UF 100V 105' K	1
17	CV18	011131045125	C/M MULTI 0.1UF 50V Z5U 0805	1
18	CV20	011131035115	C/M MULTI 0.01UF 50V X7R 0805	1
19	CV24	011131215105	C/M MULTI 120PF 50V NPO 0805	1
20	CV25	011131215105	C/M MULTI 120PF 50V NPO 0805	1
21	CV26	010131092311	E/C N-P. 1UF 250V 105' F	1
22	CV27	010131092311	E/C N-P. 1UF 250V 105' F	1
23	CV28	010131092311	E/C N-P. 1UF 250V 105' F	1
24	CV29	011111035222	C/C DISK 0.01UF 500V Z5U F-K	1
25	CV30	010111092311	E/C GEN. 1.0UF 250V 105' F	1
26	CV31	010111092311	E/C GEN. 1.0UF 250V 105' F	1
27	CV32	010111092311	E/C GEN. 1.0UF 250V 105' F	1
28	CV34	010111001511	E/C GEN. 10UF 50V 105' F	1
29	CV35	011111035222	C/C DISK 0.01UF 500V Z5U F-K	1
30	CV37	011131045125	C/M MULTI 0.1UF 50V Z5U 0805	1
31	CV38	011111032322	C/C DISK 0.01UF 2KV Z5U F-K	1
32	CV39	012034726331	P/C PPN 0.0047UF 630V J F-K	1
33	CV40	011131045125	C/M MULTI 0.1UF 50V Z5U 0805	1
34	CV41	010111011211	E/C GEN. 100UF 16V 105' F	1
35	CV42	011131045125	C/M MULTI 0.1UF 50V Z5U 0805	1
36	CV43	010111011211	E/C GEN. 100UF 16V 105' F	1
37	CV49	011132205105	C/M MULTI 22PF 50V NPO 0805	1
38	CV50	011131045134	C/M MULTI 0.1UF 50V Y5V 1206	1
39	CV51	011131215105	C/M MULTI 120PF 50V NPO 0805	1
40	CV52	011123095202	C/C DISK 3.0PF 500V NPO F-K	1
41	CV55	011133315105	C/M MULTI 330PF 50V NPO 0805	1
42	CV56	010111001511	E/C GEN. 10UF 50V 105' F	1
43	CV57	011133905105	C/M MULTI 39PF 50V NPO 0805	1
44	CV58	011133315105	C/M MULTI 330PF 50V NPO 0805	1
45	CV59	011123095202	C/C DISK 3.0PF 500V NPO F-K	1
46	CV60	011123095202	C/C DISK 3.0PF 500V NPO F-K	1
47	CV61	011133905105	C/M MULTI 39PF 50V NPO 0805	1
48	CV63	011132245135	C/M MULTI 0.22UF 50V Y5V 0805	1
49	CV64	011132245135	C/M MULTI 0.22UF 50V Y5V 0805	1
50	CV65	011132245135	C/M MULTI 0.22UF 50V Y5V 0805	1

Confidential - Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
51	CV66	011132245135	C/M MULTI 0.22UF 50V Y5V 0805	1
52	CV67	010114701211	E/C GEN. 47UF 16V 105' F	1
53	CV68	010111001511	E/C GEN. 10UF 50V 105' F	1
54	CV69	010114701511	E/C GEN. 47UF 50V 105' F	1
55	CV72	010111001511	E/C GEN. 10UF 50V 105' F	1
56	CV76	011131045125	C/M MULTI 0.1UF 50V Z5U 0805	1
57	CV77	011132245134	C/M MULTI 0.22UF 50V Y5V 1206	1
58	CV78	011134725115	C/M MULTI 4700PF 50V X7R 0805	1
59	CV84	011133905105	C/M MULTI 39PF 50V NPO 0805	1
60	DV01	039050001052	GEN. DIODE 1N4148 T	1
61	DV02	039050001052	GEN. DIODE 1N4148 T	1
62	DV03	039050009132	GEN. DIODE BAV21 T	1
63	DV04	039050003022	GEN. DIODE 1N4002F T	1
64	DV05	039050009132	GEN. DIODE BAV21 T	1
65	DV06	039050009132	GEN. DIODE BAV21 T	1
66	DV07	039050001052	GEN. DIODE 1N4148 T	1
67	DV08	039050001052	GEN. DIODE 1N4148 T	1
68	DV09	039050001052	GEN. DIODE 1N4148 T	1
69	DV11	039050001052	GEN. DIODE 1N4148 T	1
70	DV12	039050001052	GEN. DIODE 1N4148 T	1
71	DV13	039050001052	GEN. DIODE 1N4148 T	1
72	DV14	039050001052	GEN. DIODE 1N4148 T	1
73	DV17	039050001052	GEN. DIODE 1N4148 T	1
74	DV18	039050001052	GEN. DIODE 1N4148 T	1
75	DV19	039050001052	GEN. DIODE 1N4148 T	1
76	DV20	039050001052	GEN. DIODE 1N4148 T	1
77	ICV01	043040061409	IC TDA4887 SDIP 24PIN	1
78	ICV02	043040043114	IC VPS16 DIP 15PIN	1
79	ICV02H	171203000222	VIDEO BD HEAT SINK GS815	1
80	ICV02S	172426031202	SCREW,BTCW,M3.0X12L,ZN-CC	2
81	ICV03	043060013207	IC L7808CV TO-220 3PIN	1
82	ICV04	043040013104	IC LM393N DIP-8	1
83	ICV05	043070039141	IC D1642 DIP 16PIN V3.0	1
84	ICV06	043040006104	IC LM324N DIP-14	1
85	LV01	034422800601	PEAKING COIL 0.22UH 1/4W K A-T	1
86	LV02	034422800601	PEAKING COIL 0.22UH 1/4W K A-T	1
87	LV03	034422800601	PEAKING COIL 0.22UH 1/4W K A-T	1
88	LV04	034433900601	PEAKING COIL 3.3UH 1/4W K A-T	1
89	LV05	023012590000	JUMPER WIRE 12.5*0.6mm	1
90	LV06	037000001210	FERRITE CORE A6 RH 3.5X9X0.8-T52	1
91	LV07	037000001210	FERRITE CORE A6 RH 3.5X9X0.8-T52	1
92	LV10	037000001110	FERRITE CORE W8 R6H 6X10 2 1/2 T	1
93	LV11	013047081450	RES. CF 4.7ohm 1/4W J A	1
94	LV12	013033091450	RES. CF 33ohm 1/4W J A	1
95	LV13	037000001210	FERRITE CORE A6 RH 3.5X9X0.8-T52	1
96	LV14	037000001210	FERRITE CORE A6 RH 3.5X9X0.8-T52	1
97	LV15	034433900601	PEAKING COIL 3.3UH 1/4W K A-T	1
98	LV16	037000001210	FERRITE CORE A6 RH 3.5X9X0.8-T52	1
99	PCB2	017114410193	PCB VIDEO BD FR4 150x120mmx1.6t D	1
100	QV04	041040003105	TRANSISTOR BF422 TO-92 T	1

Confidential # Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
101	QV05	041040003105	TRANSISTOR BF422 TO-92 T	1
102	QV06	041040003105	TRANSISTOR BF422 TO-92 T	1
103	QV13	041000001109	TRANSISTOR 2SA733P TO-92 T	1
104	RV01	013010011859	RES. CF 1.0Kohm 1/8W J 1206	1
105	RV02	013010011859	RES. CF 1.0Kohm 1/8W J 1206	1
106	RV03	013010011859	RES. CF 1.0Kohm 1/8W J 1206	1
107	RV04	013047001859	RES. CF 470ohm 1/8W J 1206	1
108	RV07	013015091859	RES. CF 15ohm 1/8W J 1206	1
109	RV08	013015091859	RES. CF 15ohm 1/8W J 1206	1
110	RV09	013015091859	RES. CF 15ohm 1/8W J 1206	1
111	RV10	013047091859	RES. CF 47ohm 1/8W J 1206	1
112	RV100	013010031859	RES. CF 100Kohm 1/8W J 1206	1
113	RV101	013010091859	RES. CF 10ohm 1/8W J 1206	1
114	RV102	013010091859	RES. CF 10ohm 1/8W J 1206	1
115	RV103	013010091859	RES. CF 10ohm 1/8W J 1206	1
116	RV105	013043011859	RES. CF 4.3Kohm 1/8W J 1206	1
117	RV109	013033091859	RES. CF 33ohm 1/8W J 1206	1
118	RV114	013033091859	RES. CF 33ohm 1/8W J 1206	1
119	RV115	013033091859	RES. CF 33ohm 1/8W J 1206	1
120	RV116	013033091859	RES. CF 33ohm 1/8W J 1206	1
121	RV117	013047011859	RES. CF 4.7Kohm 1/8W J 1206	1
122	RV12	013010021859	RES. CF 10Kohm 1/8W J 1206	1
123	RV13	013010021859	RES. CF 10Kohm 1/8W J 1206	1
124	RV14	013010021859	RES. CF 10Kohm 1/8W J 1206	1
125	RV15	013010001859	RES. CF 100ohm 1/8W J 1206	1
126	RV16	013018031450	RES. CF 180Kohm 1/4W J A	1
127	RV19	013010001859	RES. CF 100ohm 1/8W J 1206	1
128	RV21	013010001859	RES. CF 100ohm 1/8W J 1206	1
129	RV23	013010001859	RES. CF 100ohm 1/8W J 1206	1
130	RV24	013022011859	RES. CF 2.2Kohm 1/8W J 1206	1
131	RV28	013033091450	RES. CF 33ohm 1/4W J A	1
132	RV29	013022011859	RES. CF 2.2Kohm 1/8W J 1206	1
133	RV30	013033091450	RES. CF 33ohm 1/4W J A	1
134	RV31	013033091450	RES. CF 33ohm 1/4W J A	1
135	RV33	013018031450	RES. CF 180Kohm 1/4W J A	1
136	RV34	013018031450	RES. CF 180Kohm 1/4W J A	1
137	RV36	013047091450	RES. CF 47ohm 1/4W J A	1
138	RV37	013047091450	RES. CF 47ohm 1/4W J A	1
139	RV38	013047091450	RES. CF 47ohm 1/4W J A	1
140	RV43	013010011859	RES. CF 1.0Kohm 1/8W J 1206	1
141	RV44	013075021859	RES. CF 75Kohm 1/8W J 1206	1
142	RV45	013010001859	RES. CF 100ohm 1/8W J 1206	1
143	RV46	013075021859	RES. CF 75Kohm 1/8W J 1206	1
144	RV47	013075021859	RES. CF 75Kohm 1/8W J 1206	1
145	RV53	013033021450	RES. CF 33Kohm 1/4W J A	1
146	RV54	013033021450	RES. CF 33Kohm 1/4W J A	1
147	RV55	013033021450	RES. CF 33Kohm 1/4W J A	1
148	RV56	013010041859	RES. CF 1.0Mohm 1/8W J 1206	1
149	RV57	013010041859	RES. CF 1.0Mohm 1/8W J 1206	1
150	RV58	013010041859	RES. CF 1.0Mohm 1/8W J 1206	1

Confidential – Do Not Copy

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
151	RV59	013012031859	RES. CF 120Kohm 1/8W J 1206	1
152	RV60	013012031859	RES. CF 120Kohm 1/8W J 1206	1
153	RV61	013012031859	RES. CF 120Kohm 1/8W J 1206	1
154	RV62	013010031250	RES. CF 100Kohm 1/2W J A	1
155	RV63	013010011250	RES. CF 1.0Kohm 1/2W J A	1
156	RV65	013015001859	RES. CF 150ohm 1/8W J 1206	1
157	RV66	013047001859	RES. CF 470ohm 1/8W J 1206	1
158	RV67	013047001859	RES. CF 470ohm 1/8W J 1206	1
159	RV68	013047001859	RES. CF 470ohm 1/8W J 1206	1
160	RV69	013047001859	RES. CF 470ohm 1/8W J 1206	1
161	RV70	013010021859	RES. CF 10Kohm 1/8W J 1206	1
162	RV71	013010021859	RES. CF 10Kohm 1/8W J 1206	1
163	RV72	013010021859	RES. CF 10Kohm 1/8W J 1206	1
164	RV73	013033011859	RES. CF 3.3Kohm 1/8W J 1206	1
165	RV74	013047091859	RES. CF 47ohm 1/8W J 1206	1
166	RV75	013047091859	RES. CF 47ohm 1/8W J 1206	1
167	RV76	013033091859	RES. CF 33ohm 1/8W J 1206	1
168	RV77	013033011859	RES. CF 3.3Kohm 1/8W J 1206	1
169	RV81	013010011859	RES. CF 1.0Kohm 1/8W J 1206	1
170	RV83	013033091859	RES. CF 33ohm 1/8W J 1206	1
171	RV84	013033091859	RES. CF 33ohm 1/8W J 1206	1
172	RV86	013047091859	RES. CF 47ohm 1/8W J 1206	1
173	RV87	013047081859	RES. CF 4.7ohm 1/8W J 1206	1
174	RV88	013047081859	RES. CF 4.7ohm 1/8W J 1206	1
175	RV89	013015011859	RES. CF 1.5Kohm 1/8W J 1206	1
176	RV90	013068001859	RES. CF 680ohm 1/8W J 1206	1
177	RV91	013036021859	RES. CF 36Kohm 1/8W J 1206	1
178	RV92	013010021859	RES. CF 10Kohm 1/8W J 1206	1
179	RV94	013047021859	RES. CF 47Kohm 1/8W J 1206	1
180	RV95	013039021859	RES. CF 39Kohm 1/8W J 1206	1
181	RV96	013043011859	RES. CF 4.3Kohm 1/8W J 1206	1
182	RV97	013043011859	RES. CF 4.3Kohm 1/8W J 1206	1
183	RV98	013010021859	RES. CF 10Kohm 1/8W J 1206	1
184	RV99	013075011859	RES. CF 7.5Kohm 1/8W J 1206	1
185	SGV01	027000020140	SPARK GAP 200V T	1
186	SGV02	027000020140	SPARK GAP 200V T	1
187	SGV03	027000020140	SPARK GAP 200V T	1
188	SGV04	027000012220	SPARK GAP 1.2KV A	1
189	SGV05	027000030104	SPARK GAP 300V T R	1
190	WV01	045125000744	WAFER 2.50MM 7P 90' KINK	1
191	WV02	045125001244	WAFER 2.50MM 12P 90' KINK	1
192	WV04	045210000296	WAFER 10MM 2P(BLACK)	1
193	WV05	026100000054	CRT SOCKET ISDW02S MITSUBISHI	1
194	WV08	045125000244	WAFER 2.50MM 2P 90' KINK	1
195	ZDV01	040008912000	ZENER 9C1 8.9-9.3V 1/2W	1

Confidential - Do Not Copy

11.7. 302102520306 BEZEL ASS'Y P220f G7397 PC+ABS

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
1		170101043010	BEZEL VIEWSONIC P220f G7397 PC+ABS	1
2		170104021001	FUNCTION KNOB G7397 PF775	1
3		170104022000	POWER KNOB G7397 PF775	1
4		171207000600	SPRING/PT771/P795	1
5		172426030802	SCREW,BTCW,M3.0X8L,ZZ-CC	6
6		301701420156	ASS'Y DISPLAY BD PF775	1

Confidential - Do Not Copy

11.8. 301701420156 ASS'Y DISPLAY BD

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
1	LEDD01	044050000020	LED L-59GYW 5	1
2	PCB5	017017400120	PCB DISPLAY BD V0 118X36X1.6T PT775	1
3	RD01	013033091850	RES. CF 33ohm 1/8W J A	1
4	RD02	013033091850	RES. CF 33ohm 1/8W J A	1
5	RD03	013147511410	RES. MF 4.75Kohm 1/4W F A	1
6	RD04	013018021450	RES. CF 18Kohm 1/4W J A	1
7	RD05	013011021850	RES. CF 11Kohm 1/8W J A	1
8	RD06	013075011850	RES. CF 7.5Kohm 1/8W J A	1
9	SWD01	022070200167	SW TACTILE 6*6MM 4P	1
10	SWD02	022070200167	SW TACTILE 6*6MM 4P	1
11	SWD03	022070200167	SW TACTILE 6*6MM 4P	1
12	SWD04	022070200167	SW TACTILE 6*6MM 4P	1
13	WD01	046011040040	WH XH4P-SCN4P 1007#24 230MM	1

Confidential - Do Not Copy

11.9. 301900220159 ASS'Y DIODE OPTION BD P95f,P220f FOR DA17

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
1	D01	039030048022	FAST DIODE FUF5408 T	1
2	D02	039030048022	FAST DIODE FUF5408 T	1
3	PCB8	017116410070	PCB OPTION BD FR4 30x60mmx1.0T D	1
4	R01	013302280252	RES. MOF(M) 0.22ohm 2W J A-FK	1
5	R02	013302280252	RES. MOF(M) 0.22ohm 2W J A-FK	1

Confidential - Do Not Copy

11.10.302100220157 ASS'Y POWER FACTOR BD

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
1	CP01	012051054031	P/C MEF 1.0UF 400V J F-K	1
2	CP02	012052240531	P/C MEF 0.22UF 50V J F-K (T)	1
3	CP03	011121515102	C/C DISK 150PF 50V NPO F-K	1
4	CP04	011111025112	C/C DISK 1000PF 50V Y5P F-K	1
5	CP05	010112201211	E/C GEN. 22UF 16V 105' F	1
6	CP09	011111045102	C/C DISK 0.1UF 50V Y5V F-K	1
7	CP10	012092246331	P/C MPS 0.22UF 630V J F-K	1
8	CP11	011111035122	C/C DISK 0.01UF 50V Z5U F-K	1
9	CP12	011122205102	C/C DISK 22PF 50V NPO F-K	1
10	DP01	039050010202	GEN. DIODE 1N5406 T/B	1
11	DP02	039050010202	GEN. DIODE 1N5406 T/B	1
12	DP03	039050010202	GEN. DIODE 1N5406 T/B	1
13	DP04	039050010202	GEN. DIODE 1N5406 T/B	1
14	DP05	301900420159	ASS'Y DIODE OPTION BD FOR DP05(PFC)	1
15	DP06	039050010202	GEN. DIODE 1N5406 T/B	1
16	DP07	039050001052	GEN. DIODE 1N4148 T	1
17	DP08	039050001052	GEN. DIODE 1N4148 T	1
18	ICP01	043070055110	IC MC33260 DIP 8PIN	1
19	JP01	023015090000	JUMPER WIRE 15*0.6MM	1
20	JP02	023015090000	JUMPER WIRE 15*0.6MM	1
21	LP01	037000001010	FERRITE CORE RH 3.5X6X1.0(W)X2	1
22	PCB8	017420400072	PCB POWER FACTOR BD K1 107x65mmx1.6T	1
23	QP01	042010010401	POWER MOS IRFBC40 TO-220	1
24	QP01H	171204001401	HEAT SINK (23.5WX16.5TX50H)	1
25	QP01R	170111000200	SILICON RUBBER/TO-2203	1
26	QP01S	172417030802	SCREW,PB,M3.0X8L,ZN-CC	1
27	QP01W	170113000100	TRANSISTOR WASHER/602S	1
28	QP02	041000001109	TRANSISTOR 2SA733P TO-92 T	1
29	QP03	041020001110	TRANSISTOR 2SC945P TO-92 T	1
30	RP02	013706880352	RES. W.W.(non ind.) 0.68ohm 3W J A-FK	1
31	RP03	013706880352	RES. W.W.(non ind.) 0.68ohm 3W J A-FK	1
32	RP04	013010041250	RES. CF 1.0Mohm 1/2W J A	1
33	RP05	013010041250	RES. CF 1.0Mohm 1/2W J A	1
34	RP07	013056091450	RES. CF 56ohm 1/4W J A	1
35	RP08	013091011250	RES. CF 9.1Kohm 1/2W J A	1
36	RP09	013012011850	RES. CF 1.2Kohm 1/8W J A	1
37	RP10	013010021450	RES. CF 10Kohm 1/4W J A	1
38	RP11	013010091850	RES. CF 10ohm 1/8W J A	1
39	RP12	013010091850	RES. CF 10ohm 1/8W J A	1
40	TP01	035001300061	X'FMR EI30 125uH	1
41	WP01	045225403029	WAFER 2*15P 2.54MM 90' (BOX HEADER)	1
42	ZDP01	040012612000	ZENER 12B2 12.6-13.1V 1/2W	1

Confidential – Do Not Copy

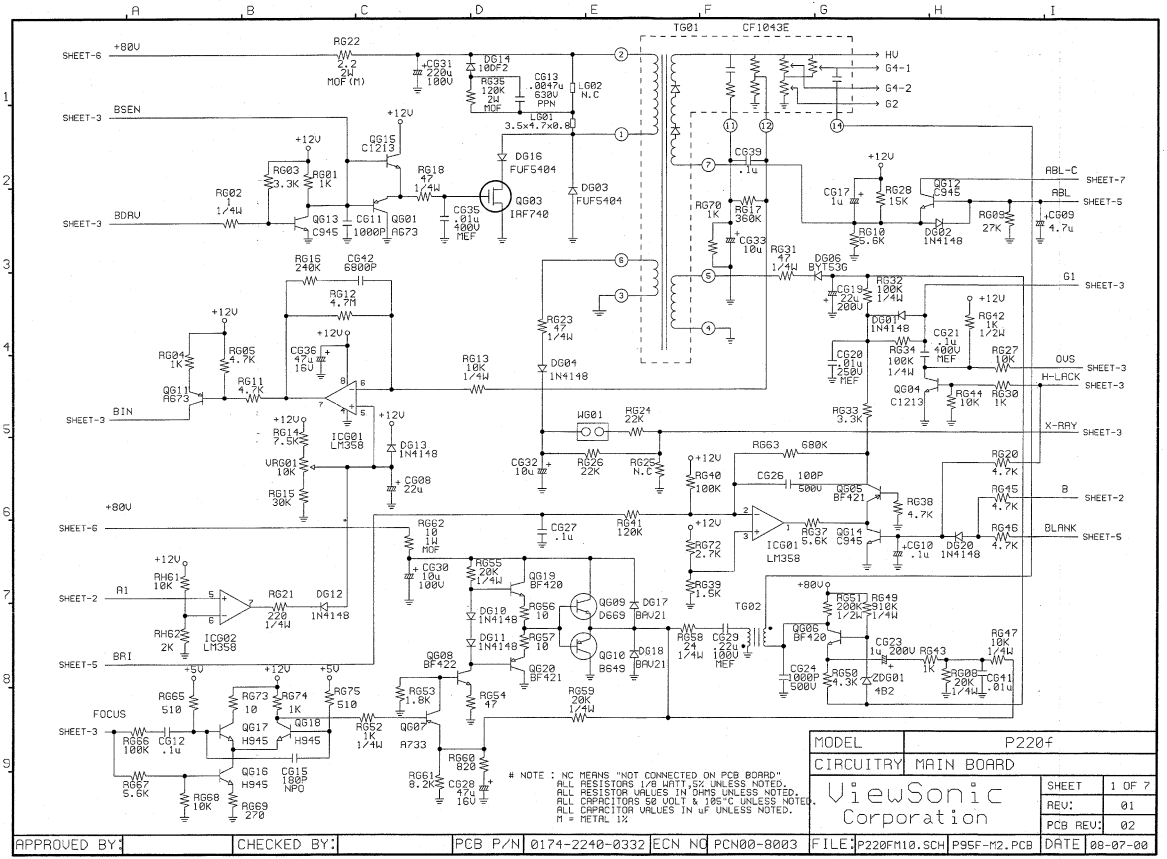
11.11.301900420159 ASS'Y DIODE OPTION BD FOR DP05(PFC)

ITEM	LOCATION	PART NO.	DESCRIPTION	REMARK
1		017116410090	PCB DIODE(PFC) OPTION BD FR4 26x40mm	1
2	DPX01	039040002272	FAST DIODE ER508 T (600V 5A)	1

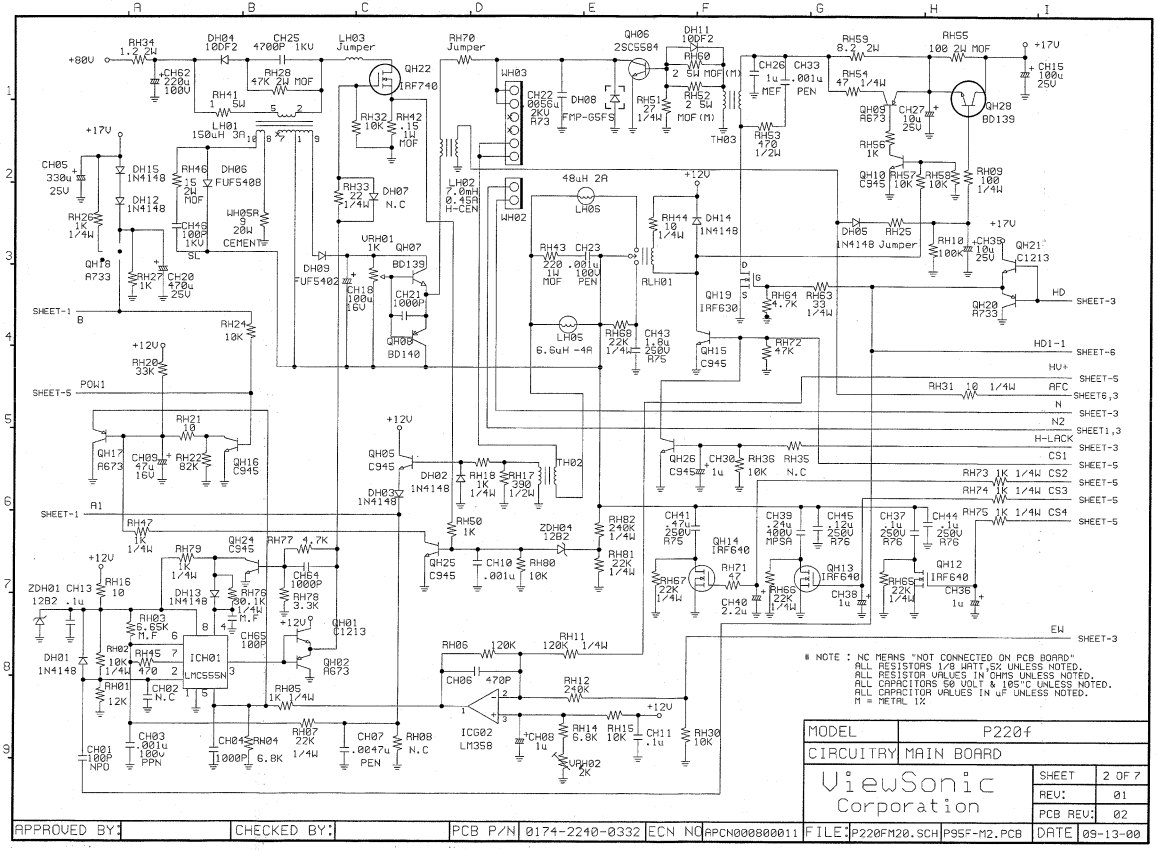
Confidential - Do Not Copy

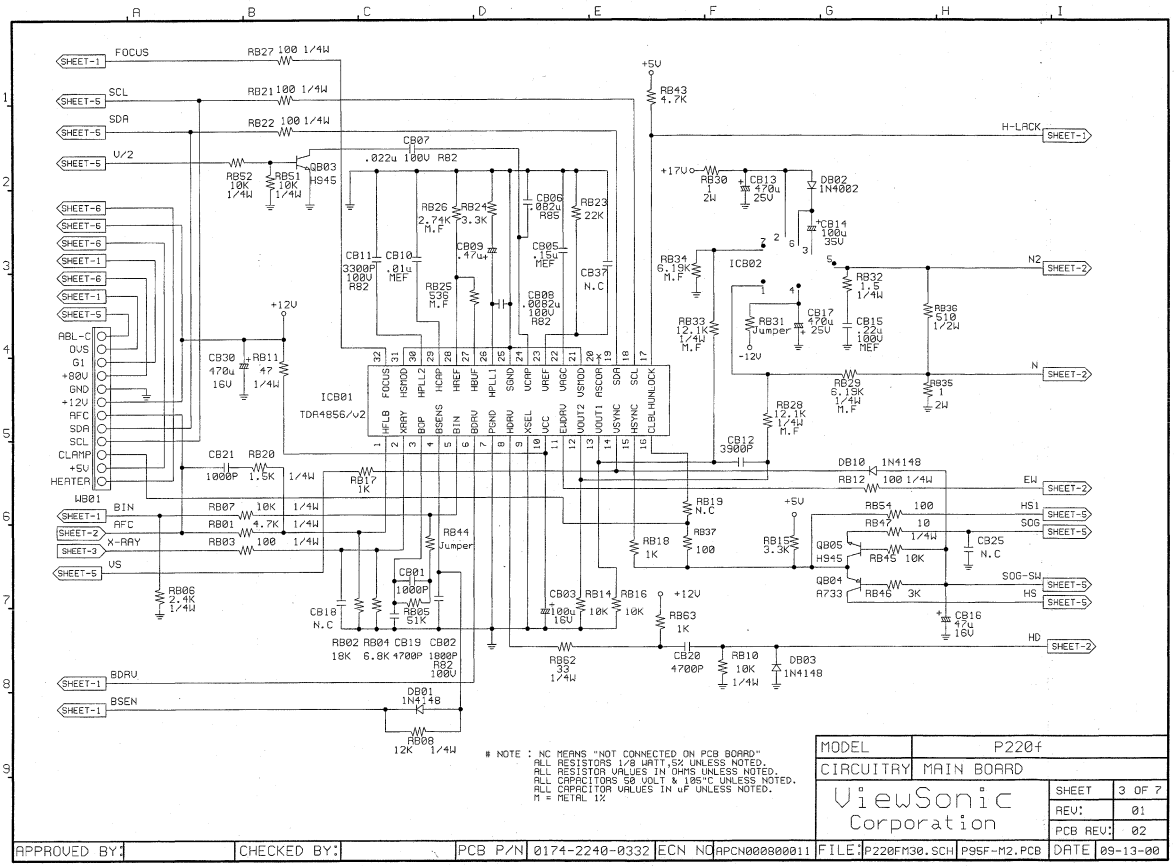
Chapter 12. Schematic Diagrams

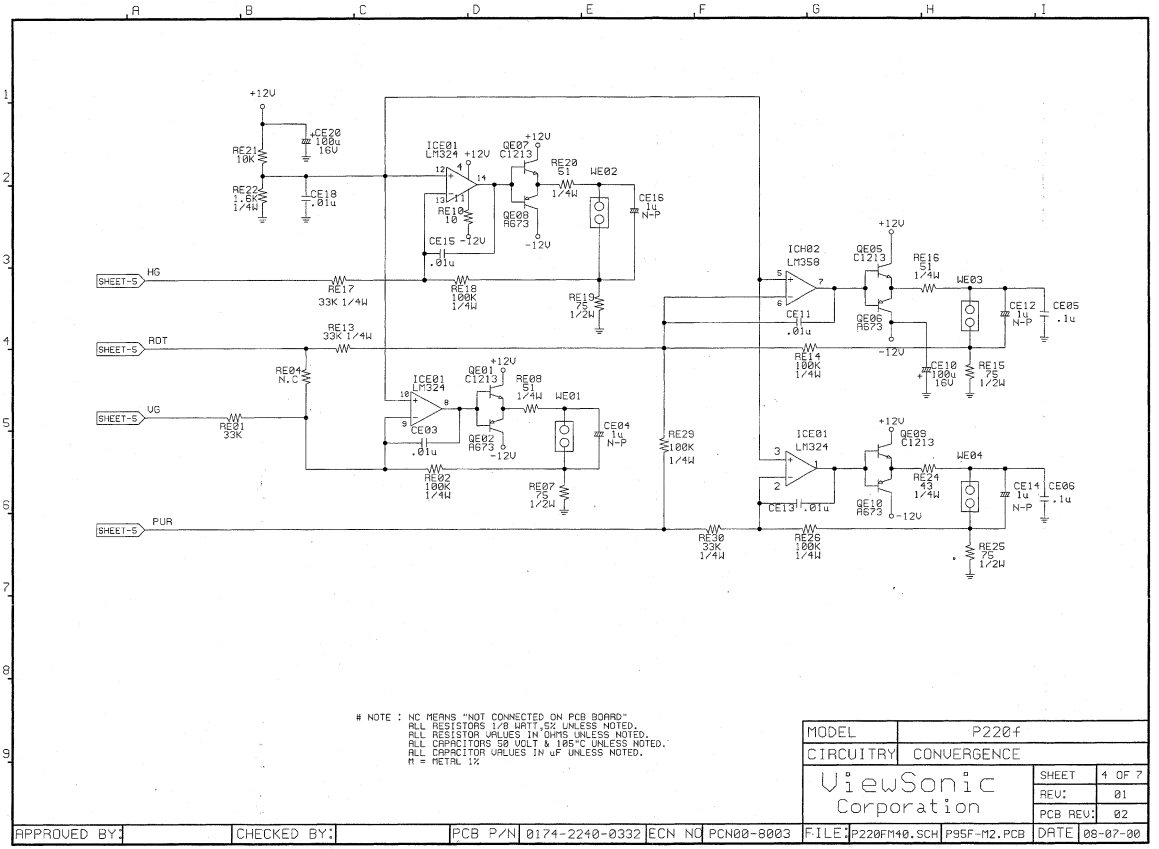
Confidential - Do Not Copy



NOTE : NC MEANS "NOT CONNECTED ON PCB BOARD"
ALL RESISTORS 1/8 WATT,5% UNLESS NOTED.
ALL RESISTOR VALUES IN OHMS UNLESS NOTED.
ALL CAPACITORS 50 VOLT & 105°C UNLESS NOTED.
ALL CAPACITOR VALUES IN uF UNLESS NOTED.
M = METAL 1%


+80V
+17V
+12V
+17V
+17V
+12V
+12V
+12

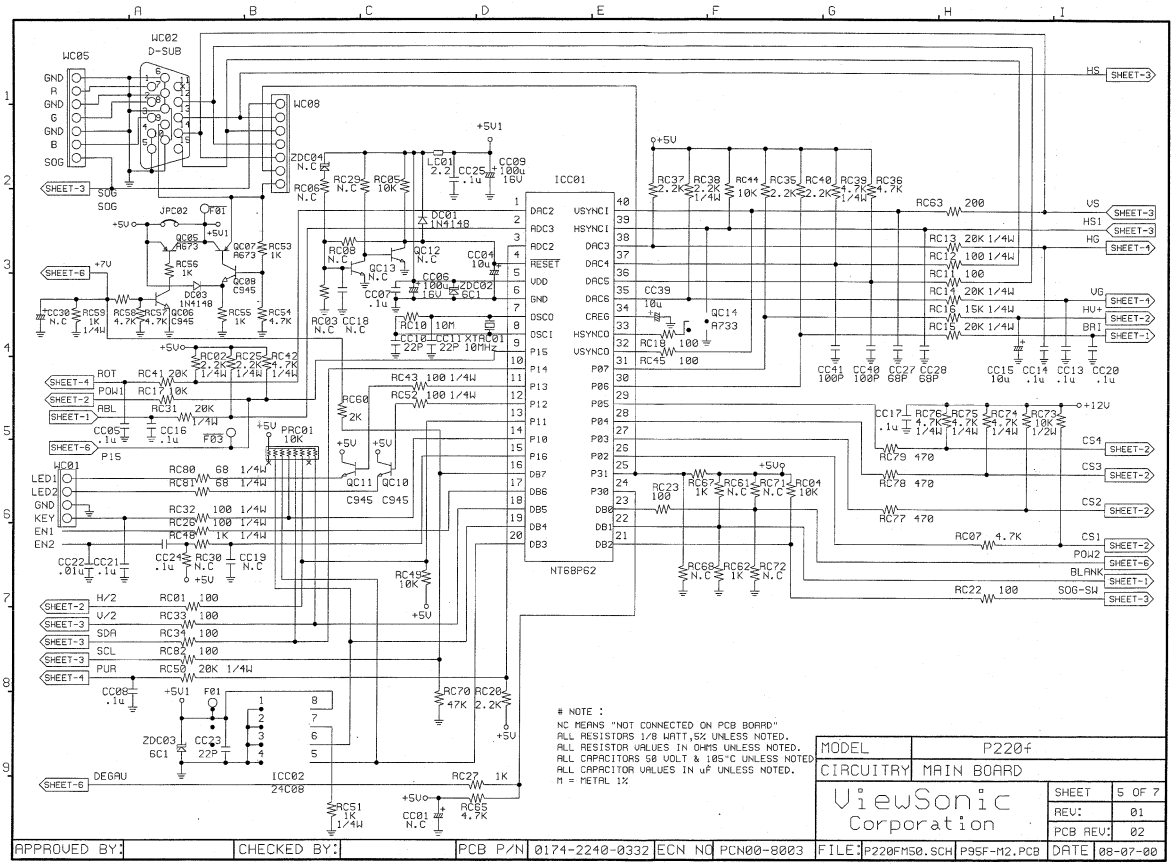

ICB01
TDA4856/v2
WB01
ICB02
DB01 1N4148
DB02 1N4002
DB03 1N4148
DB10 1N4148
QB03 HS45
QB04 A733
QB05 HS45
CB01 1000P
CB02 1800P
CB03 100u 16V
CB04 .082u
CB05 .15u MEF
CB06 .082u
CB07 .022u 100V
CB08 .0082u 100V
CB09 .47u
CB10 .01u MEF
CB11 3300P 100V
CB12 3900P
CB13 470u 25V
CB14 100u 35V
CB15 .22u 100V MEF
CB16 47u 16V
CB17 470u 25V
CB18 N.C
CB19 4700P
CB20 4700P
CB21 1000P
CB25 N.C
CB30 470u 16V
CB37 N.C
RB01 4.7K 1/4W
RB02 18K
RB03 100 1/4W
RB04 6.8K
RB05 51K
RB06 2.4K 1/4W
RB07 10K 1/4W
RB08 12K 1/4W
RB09 1K
RB10 10K 1/4W
RB11 47 1/4W
RB12 100 1/4W
RB13 470 2W
RB14 10K
RB15 3.3K
RB16 10K
RB17 1K
RB18 1K
RB19 N.C
RB20 1.5K 1/4W
RB21 100 1/4W
RB22 100 1/4W
RB23 22K
RB24 3.3K
RB25 536 M.F
RB26 2.74K M.F
RB27 100 1/4W
RB28 12.1K 1/4W M.F
RB29 5.19K 1/4W M.F
RB30 1 2W
RB31 Jumper
RB32 1.5 1/4W
RB33 12.1K 1/4W M.F
RB34 6.19K M.F
RB35 1 2W
RB36 510 1/2W
RB37 100
RB43 4.7K
RB44 Jumper
RB45 10K
RB46 3K
RB47 10 1/4W
RB48 100 1/4W
RB52 10K 1/4W
RB62 33 1/4W
RB63 1K
RB82 100V
FOCUS
SCL
SDA
V/2
ABL-C
OVS
G1
+80V
GND
+12V
AFC
SDA
SCL
CLAMP
+5V
HEATER
BIN
AFC
X-RAY
VS
BDRV
BSEN
H-LACK
N2
N
EW
HS1
SOG
SOG-SW
HS
HD
+5V
+12V
-12V
+17V
SHEET-1
SHEET-2
SHEET-3
SHEET-5
SHEET-6
HFLB
FOCUS
HSMOD
XRAY
HPLL2
BOP
HCAP
BSENS
HREF
BIN
HBUF
BDRV
HPLL1
PGND
SGND
HDRV
XSEL
VCAP
VCC
VREF
EWDRV
VAGC
VOUT2
VSMOD
VOUT1
ASCOR
XSYNC
SDA
HSYNC
SCL
CLBLHUNLOCK
NOTE : NC MEANS "NOT CONNECTED ON PCB BOARD"
ALL RESISTORS 1/8 WATT,5% UNLESS NOTED.
ALL RESISTOR VALUES IN OHMS UNLESS NOTED.
ALL CAPACITORS 50 VOLT & 105°C UNLESS NOTED.
ALL CAPACITOR VALUES IN uF UNLESS NOTED.
M = METAL 1%
MODEL P220f
CIRCUITRY MAIN BOARD
ViewSonic Corporation
SHEET 3 OF 7
REV: 01
PCB REV: 02
DATE 09-13-00
APPROVED BY:
CHECKED BY:
PCB P/N 0174-2240-0332
ECN NO APCN00080011
FILE: P220FM30.SCH P95F-M2.PCB



NOTE : NC MEANS "NOT CONNECTED ON PCB BOARD"
ALL RESISTORS 1/8 WATT 5% UNLESS NOTED.
ALL RESISTOR VALUES IN OHMS UNLESS NOTED.
ALL CAPACITORS 50 VOLT & 105°C UNLESS NOTED.
ALL CAPACITOR VALUES IN uF UNLESS NOTED.
M = METAL 1%

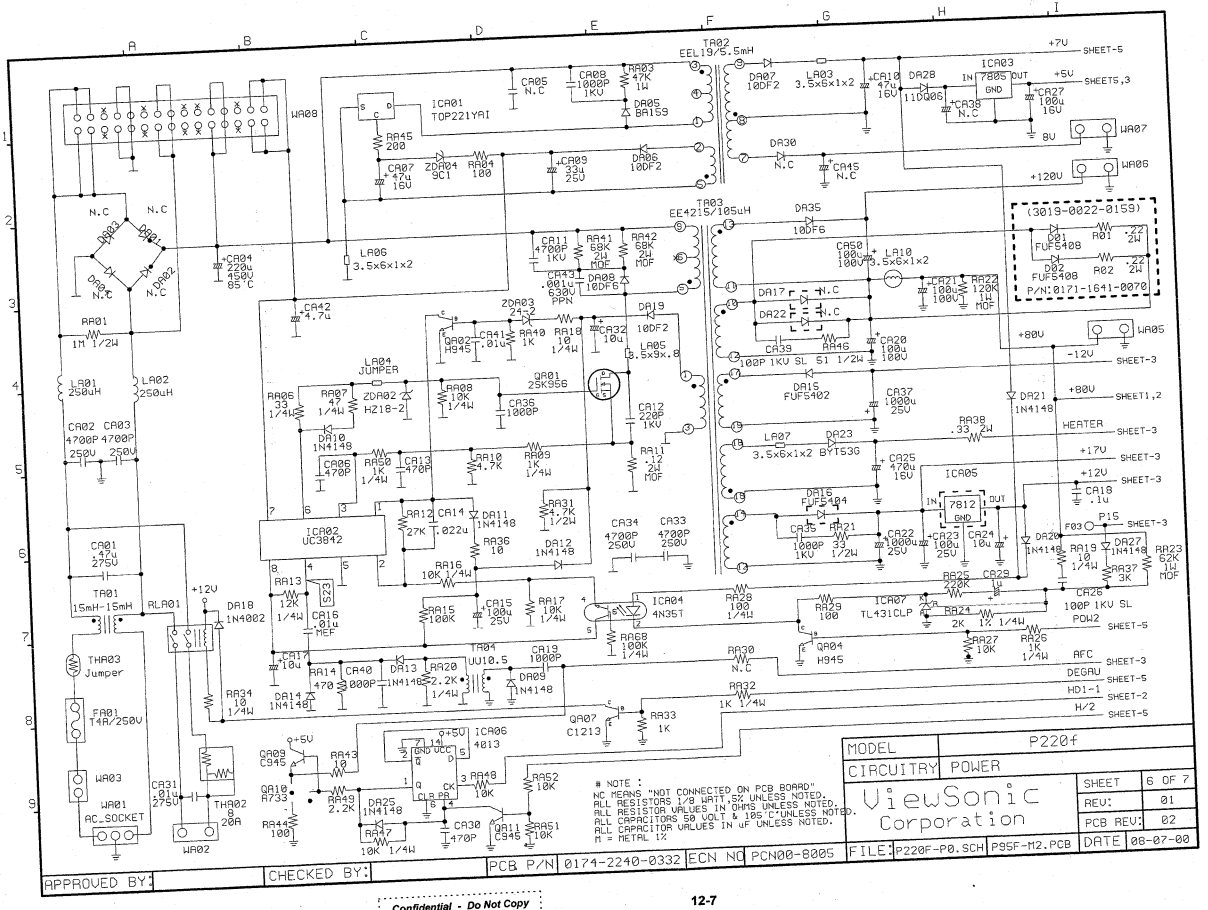
MODEL	P220f
CIRCUITRY	CONVERGENCE
ViewSonic Corporation	SHEET 4 OF 7
	REV: 01
	PCB REV: 02

APPROVED BY:		CHECKED BY:		PCB P/N	0174-2240-0332	ECN NO	PCN00-8003	FILE: P220FM40.SCH P95F-M2.PCB	DATE 08-07-00

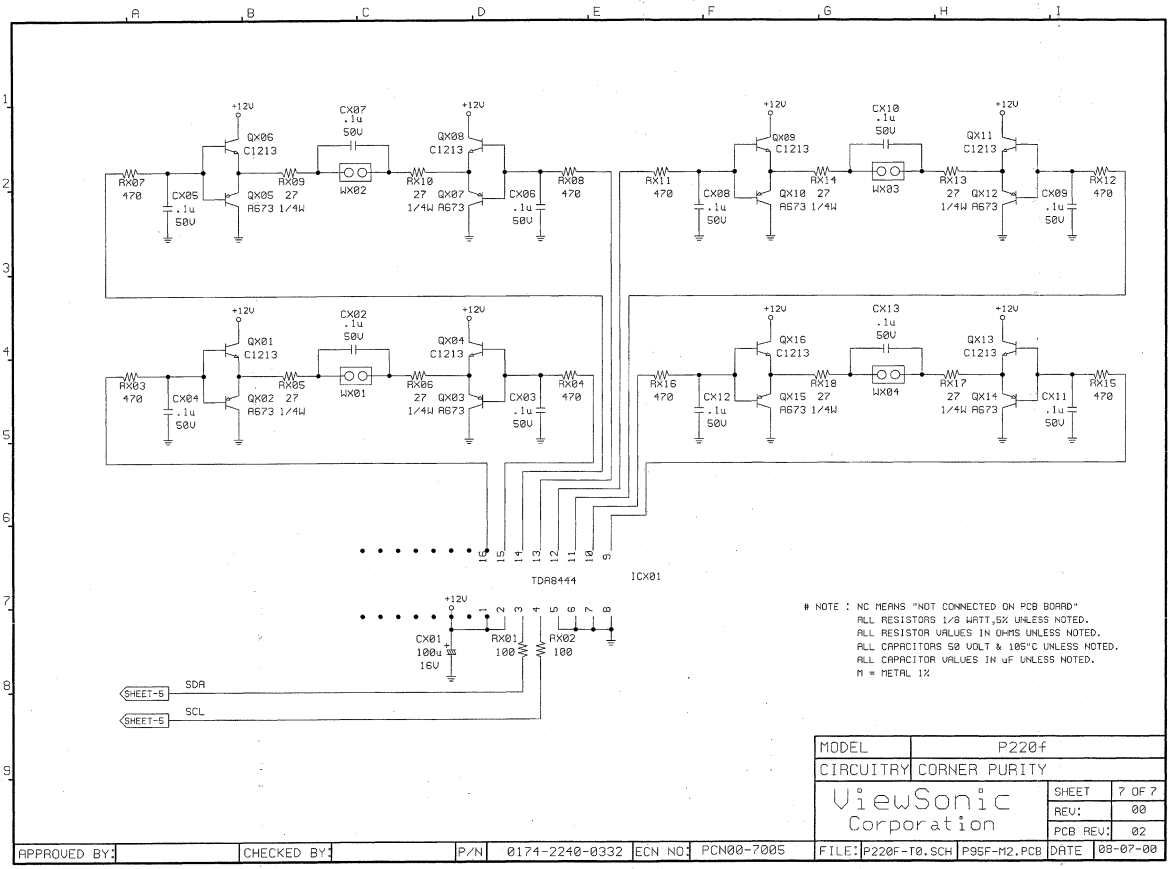


NOTE :
NC MEANS "NOT CONNECTED ON PCB BOARD"
ALL RESISTORS 1/8 WATT,5% UNLESS NOTED.
ALL RESISTOR VALUES IN OHMS UNLESS NOTED.
ALL CAPACITORS 50 VOLT & 105°C UNLESS NOTED
ALL CAPACITOR VALUES IN uF UNLESS NOTED.
M = METAL 1%

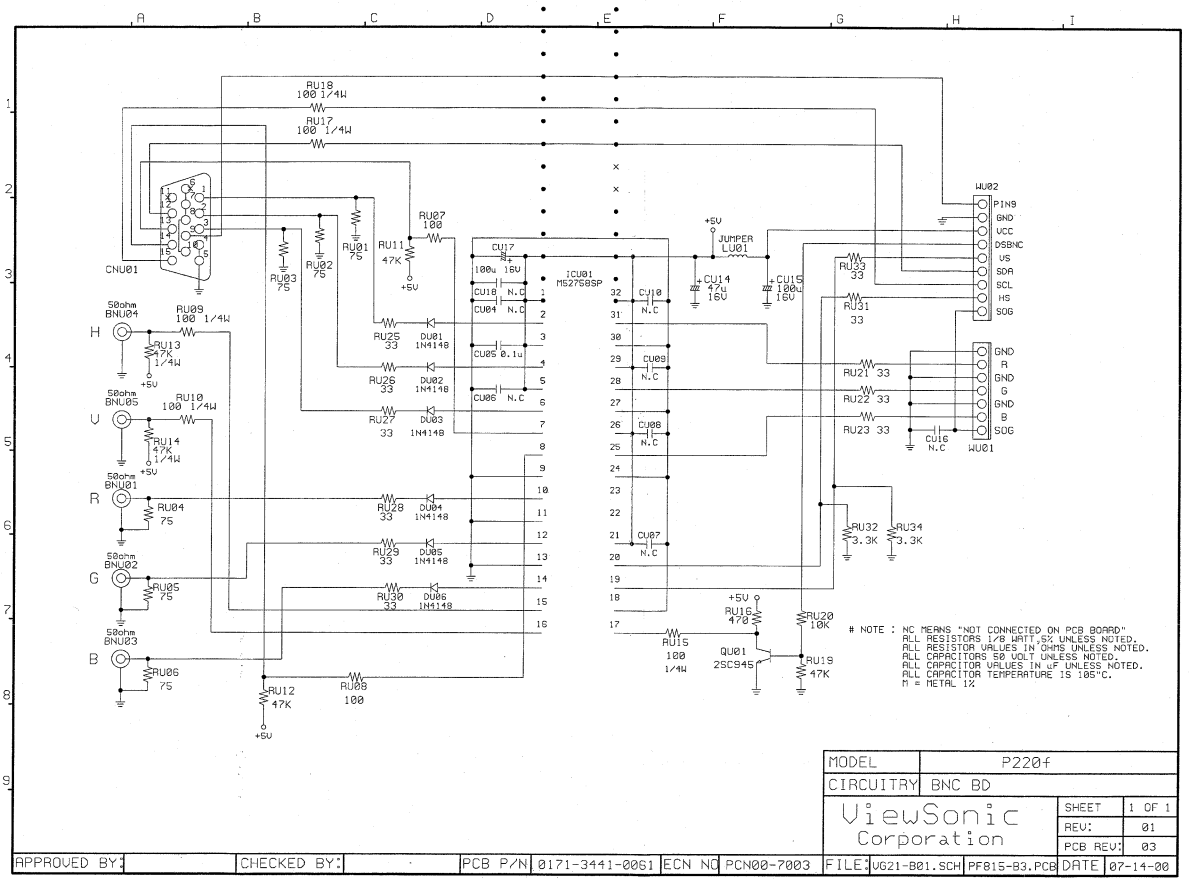
MODEL	P220f						
CIRCUITRY	MAIN BOARD						
ViewSonic Corporation					SHEET	5 OF 7	
					REV:	01	
					PCB REV:	02	
APPROVED BY:	CHECKED BY:	PCB P/N	0174-2240-0332	ECN NO	PCN00-8003	FILE: P220FM50.SCH / P95F-M2.PCB	DATE 08-07-00

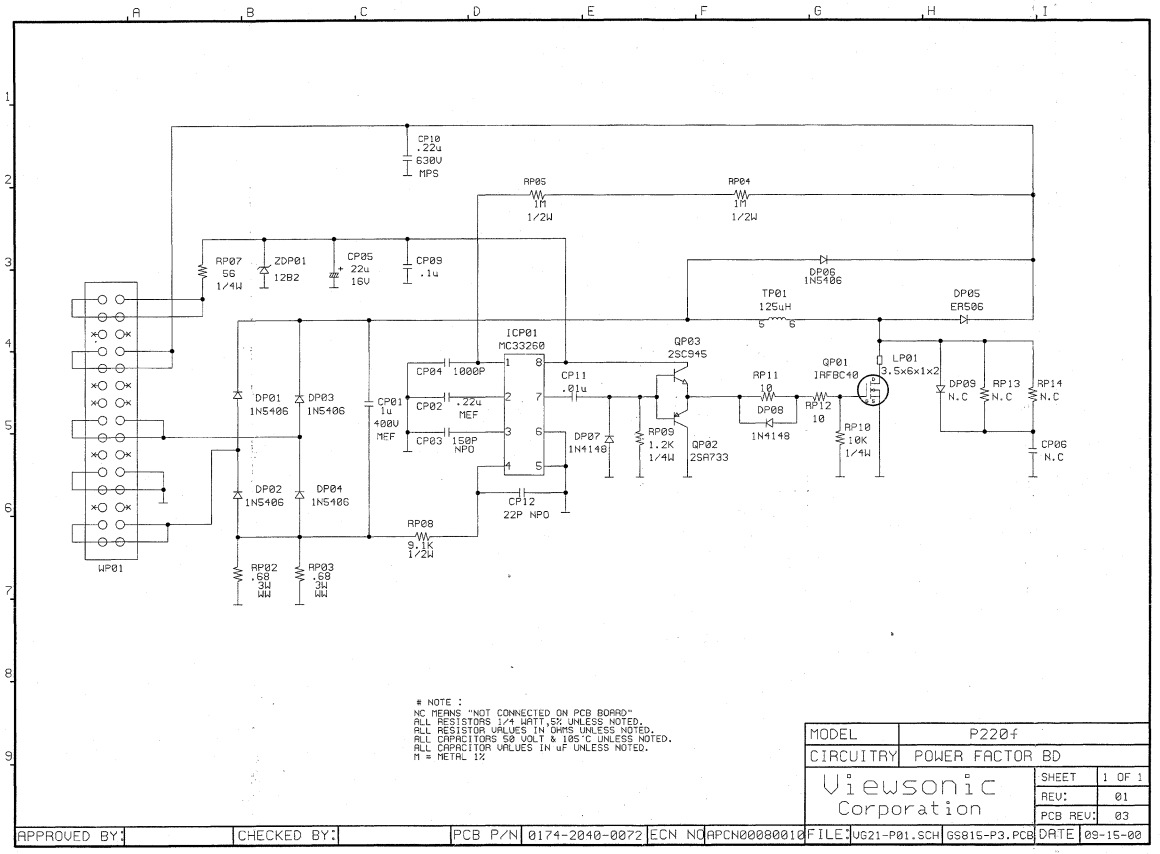

TA02 EEL19/5.5mH
TA03 EE42/5/105uH
ICA01 TOP221YAI
ICA02 UC3842
ICA03 7805
ICA04 4N35T
ICA05 7812
ICA06 4013
ICA07 TL431CLP
TR01 15mH-15mH
TA04 UU10.5
THA03 Jumper
FA01 T4A/250V
AC_SOCKET
+7V
+5V
+120V
+80V
-12V
+17V
+12V
HEATER
SHEET-5
SHEET5,3
SHEET-3
SHEET1,2
P15
POW2
AFC
DEGAU
HD1-1
H/2
(3019-0022-0159)
P/N:0171-1641-0070
MODEL P220f
CIRCUITRY POWER
SHEET 6 OF 7
REV: 01
PCB REV: 02
DATE 08-07-00
FILE: P220F-P0.SCH P9SF-M2.PCB
APPROVED BY:
CHECKED BY:
PCB P/N 0174-2240-0332
ECN NO PCN00-8005
NOTE : NC MEANS "NOT CONNECTED ON PCB BOARD". ALL RESISTORS 1/8 WATT ,5% UNLESS NOTED. ALL RESISTOR VALUES IN OHMS UNLESS NOTED. ALL CAPACITORS 50 VOLT & 105°C UNLESS NOTED. ALL CAPACITOR VALUES IN uF UNLESS NOTED. M = METAL 1%

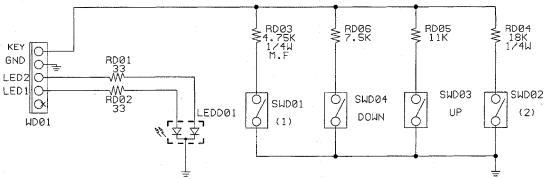
P220f



Confidential - Do Not Copy


RU18 100 1/4W
RU17 100 1/4W
CNU01
RU03 75
RU02 75
RU01 75
RU11 47K
+5V
RU07 100
CU17 100u 16V
CU18 N.C
CU04 N.C
CU05 0.1u
CU06 N.C
ICU01 MS2758SP
JUMPER LU01
CU14 47u 16V
CU15 100u 16V
CU10 N.C
CU09 N.C
CU08 N.C
CU07 N.C
WU02
PIN9
GND
VCC
DSBNC
VS
SDA
SCL
HS
SOG
RU33 33
RU31 33
RU21 33
RU22 33
RU23 33
CU16 N.C
WU01
GND
R
GND
G
GND
B
SOG
50ohm BNU04
RU09 100 1/4W
RU13 47K 1/4W
H
50ohm BNU05
RU10 100 1/4W
RU14 47K 1/4W
U
50ohm BNU01
RU04 75
R
50ohm BNU02
RU05 75
G
50ohm BNU03
RU06 75
B
RU25 33
DU01 1N4148
RU26 33
DU02 1N4148
RU27 33
DU03 1N4148
RU28 33
DU04 1N4148
RU29 33
DU05 1N4148
RU30 33
DU06 1N4148
RU12 47K
RU08 100
RU32 3.3K
RU34 3.3K
RU16 470
RU20 10K
RU15 100 1/4W
QU01 2SC945
RU19 47K
NOTE : NC MEANS "NOT CONNECTED ON PCB BOARD"
ALL RESISTORS 1/8 WATT,5% UNLESS NOTED.
ALL RESISTOR VALUES IN OHMS UNLESS NOTED.
ALL CAPACITORS 50 VOLT UNLESS NOTED.
ALL CAPACITOR VALUES IN uF UNLESS NOTED.
ALL CAPACITOR TEMPERATURE IS 105°C.
M = METAL 1%
MODEL P220f
CIRCUITRY BNC BD
ViewSonic Corporation
SHEET 1 OF 1
REV: 01
PCB REV: 03
APPROVED BY:
CHECKED BY:
PCB P/N: 0171-3441-0061
ECN NO: PCN00-7003
FILE: VG21-B01.SCH PF815-B3.PCB
DATE 07-14-00

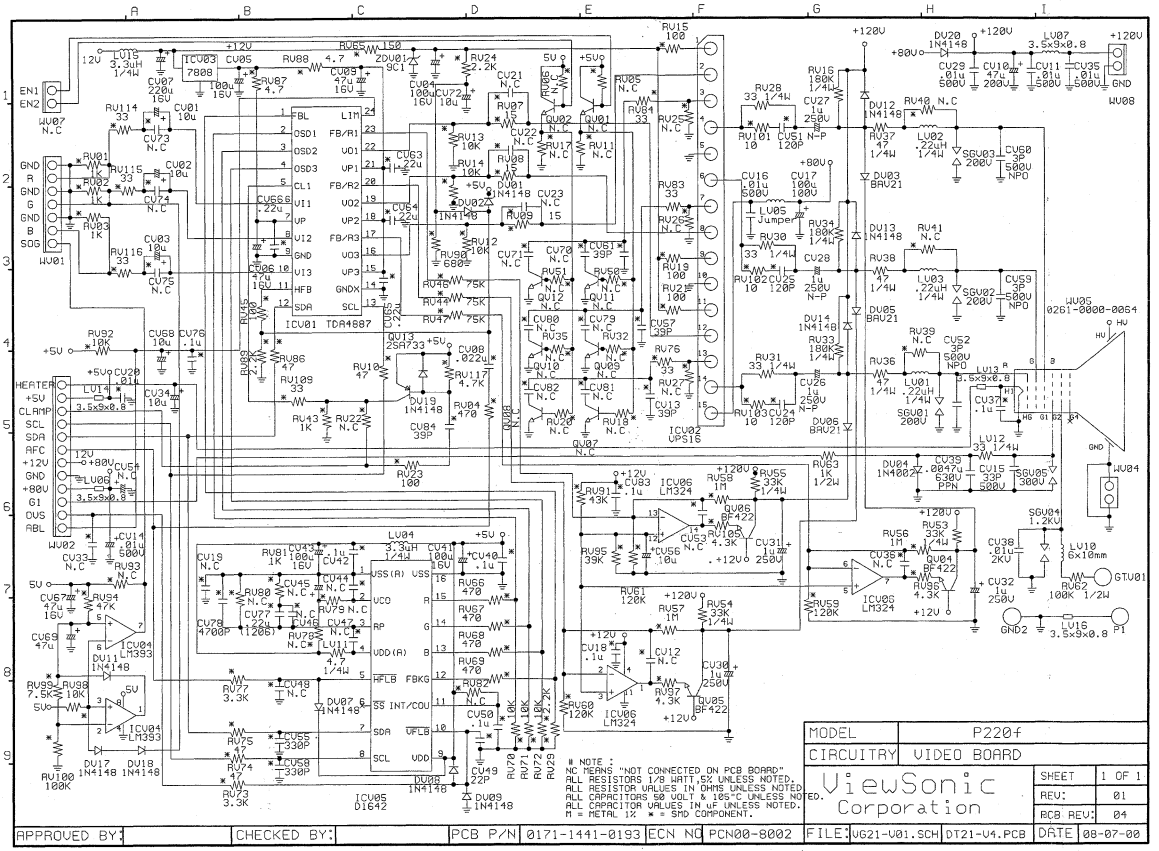

A B C D E F G H I
1 2 3 4 5 6 7 8 9
CP10 .22u 630V MPS
RP05 1M 1/2W
RP04 1M 1/2W
RP07 56 1/4W
ZDP01 12B2
CP05 22u 16V
CP09 .1u
DP06 1N5406
TP01 125uH
DP05 ER506
ICP01 MC33260
QP03 2SC945
CP04 1000P
CP02 .22u MEF
CP03 150P NPO
CP11 .01u
RP11 10
DP08 1N4148
RP12 10
QP01 IRFBC40
LP01 3.5x6x1x2
DP09 N.C
RP13 N.C
RP14 N.C
CP06 N.C
DP01 1N5406
DP03 1N5406
DP02 1N5406
DP04 1N5406
CP01 1u 400V MEF
DP07 1N4148
RP09 1.2K 1/4W
QP02 2SA733
RP10 10K 1/4W
CP12 22P NPO
RP08 5.1K 1/2W
WP01
RP02 .68 3W
RP03 .68 3W
NOTE :
NC MEANS "NOT CONNECTED ON PCB BOARD"
ALL RESISTORS 1/4 WATT 5% UNLESS NOTED.
ALL RESISTOR VALUES IN OHMS UNLESS NOTED.
ALL CAPACITORS 50 VOLT & 105°C UNLESS NOTED.
ALL CAPACITOR VALUES IN uF UNLESS NOTED.
M = METAL 1%
MODEL P220f
CIRCUITRY POWER FACTOR BD
ViewSonic Corporation
SHEET 1 OF 1
REV: 01
PCB REV: 03
APPROVED BY: CHECKED BY: PCB P/N 0174-2040-0072 ECN NO APCN00080010 FILE: VG21-P01.SCH GS815-P3.PCB DATE 09-15-00



P/N:0170-1740-0120

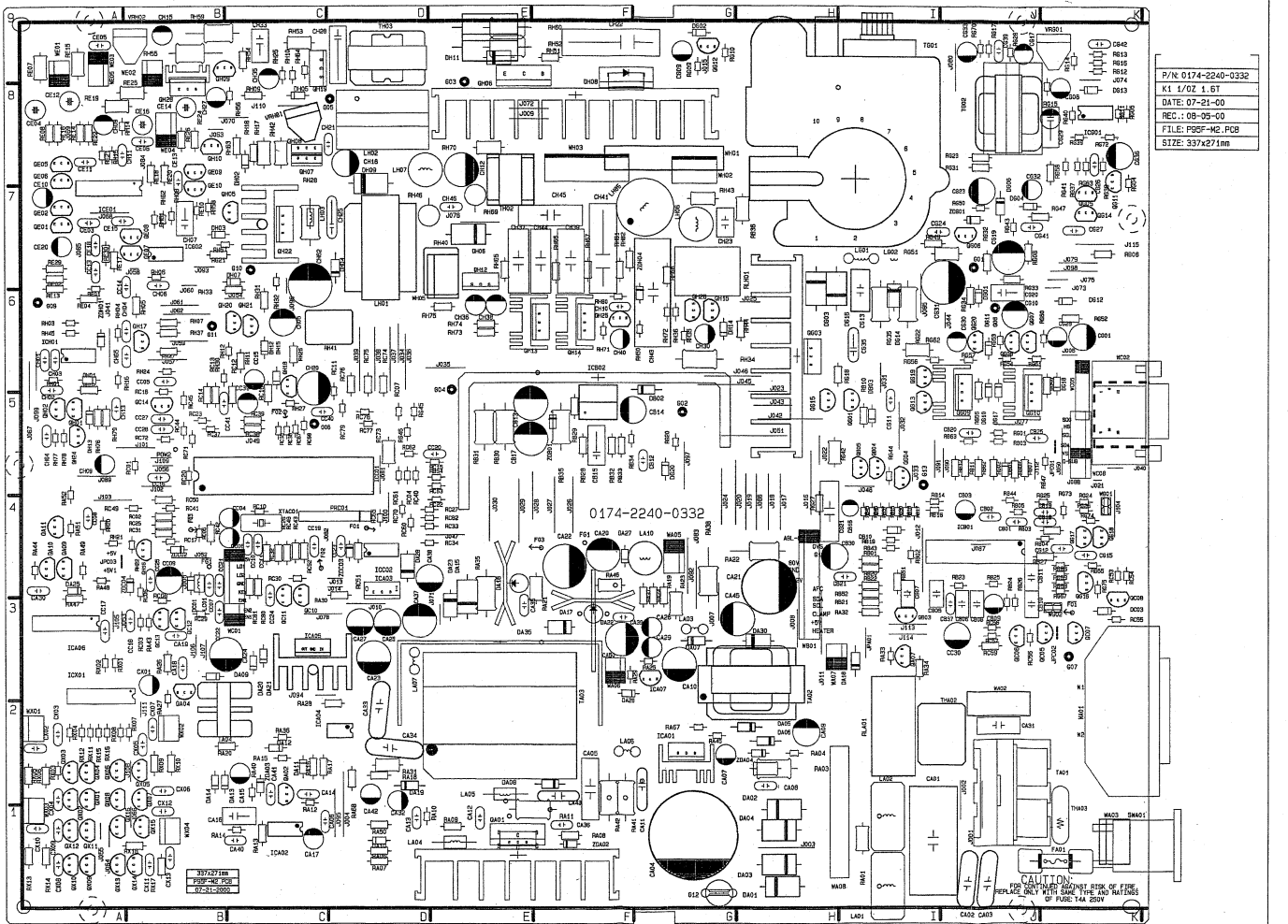
NOTE : NC MEANS "NOT CONNECTED ON PCB BOARD"
ALL RESISTORS 1/8 WATT,5% UNLESS NOTED.
ALL RESISTOR VALUES IN OHMS UNLESS NOTED.
ALL CAPACITORS 50 VOLT & 105"C UNLESS NOTED.
ALL CAPACITOR VALUES IN uF UNLESS NOTED.
M = METAL 1%

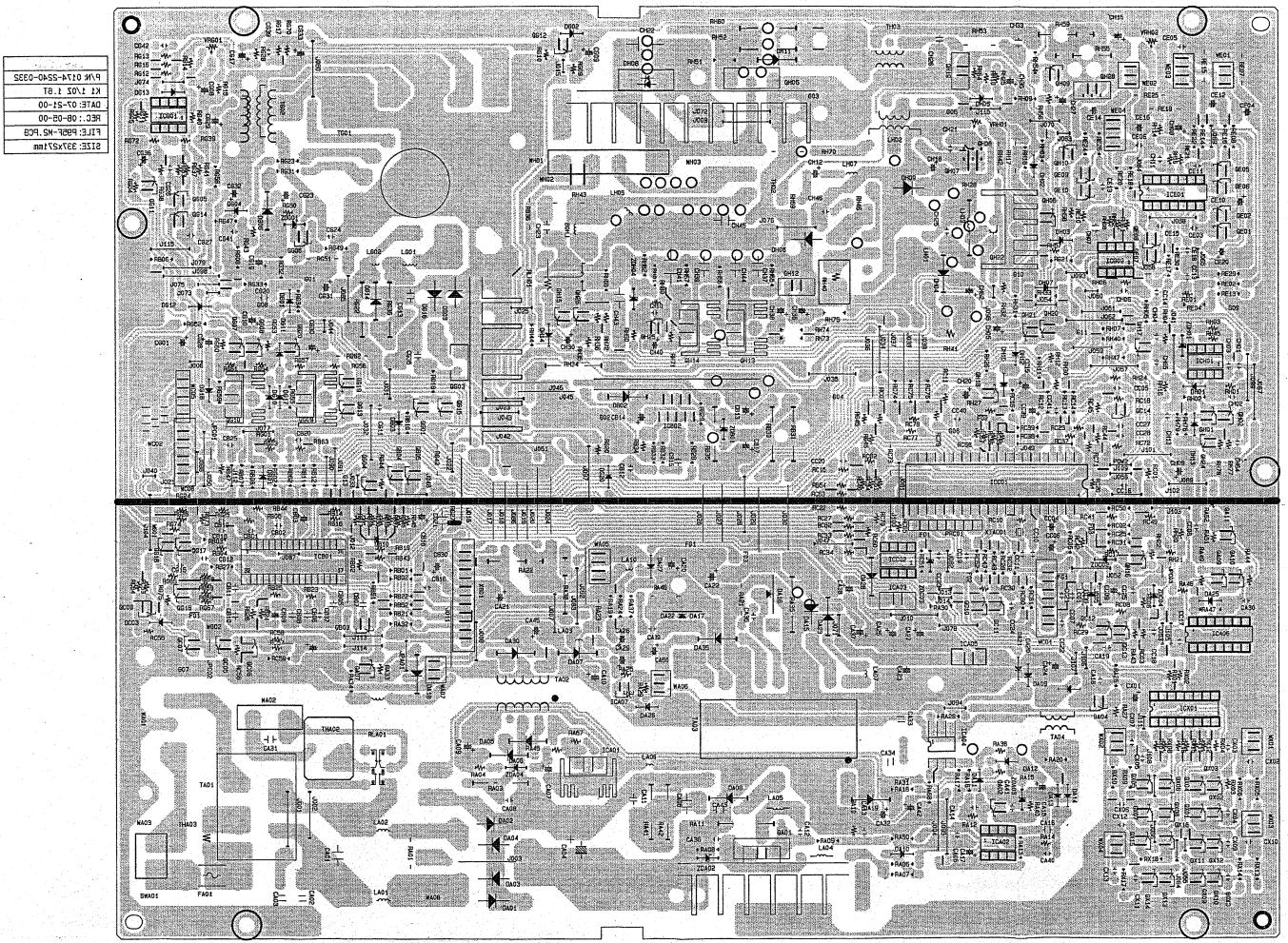
MODEL	P220f								
CIRCUITRY	DISPLAY BD.								
ViewSonic Corporation								SHEET	1 OF 1
								REV:	00
								PCB REV:	00
APPROVED BY:		CHECKED BY:		PCB P/N	0170-1740-0120	ECN NO	ECN00-7001	FILE: VG21-D00.SCH P775D000.PCB	DATE 08-07-00


MODEL P220f
CIRCUITRY VIDEO BOARD
ViewSonic Corporation
SHEET 1 OF 1
REV: 01
PCB REV: 04
DATE 08-07-00
APPROVED BY:
CHECKED BY:
PCB P/N 0171-1441-0193
ECN NO PCN00-8002
FILE: VG21-V01.SCH DT21-V4.PCB
* NOTE :
NC MEANS "NOT CONNECTED ON PCB BOARD".
ALL RESISTORS 1/8 WATT 5% UNLESS NOTED.
ALL RESISTOR VALUES IN OHMS UNLESS NOTED.
ALL CAPACITORS 50 VOLT & 105°C UNLESS NOTED.
ALL CAPACITOR VALUES IN uF UNLESS NOTED.
M = METAL 1% * = SMD COMPONENT.

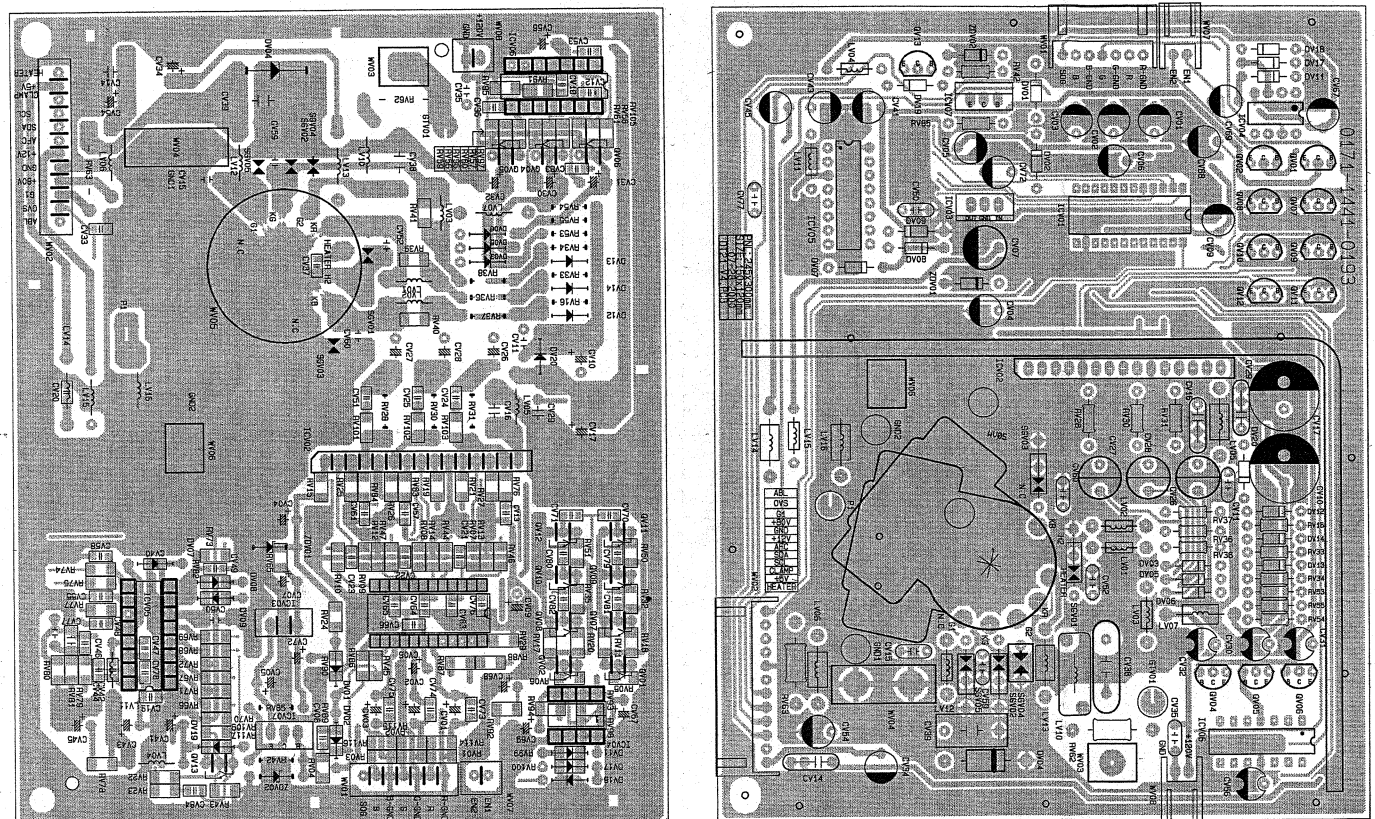
Chapter 13 PCB Layouts

Confidential - Do Not Copy


P/N: 0174-2240-0332
K1 1/OZ 1.6T
DATE: 07-21-00
REC.: 08-05-00
FILE: P95F-M2.PCB
SIZE: 337x271mm
0174-2240-0332
337X271mm
P95F-M2 PCB
07-31-2000
CAUTION:
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE ONLY WITH SAME TYPE AND RATINGS
OF FUSE: T4A 250V



P/N: 0174-5540-0332
REV: 1.02 1.07
DATE: 07-21-00
REC.: 08-08-00
FILE: P80F-MS.PCB
SIZE: 337x271mm

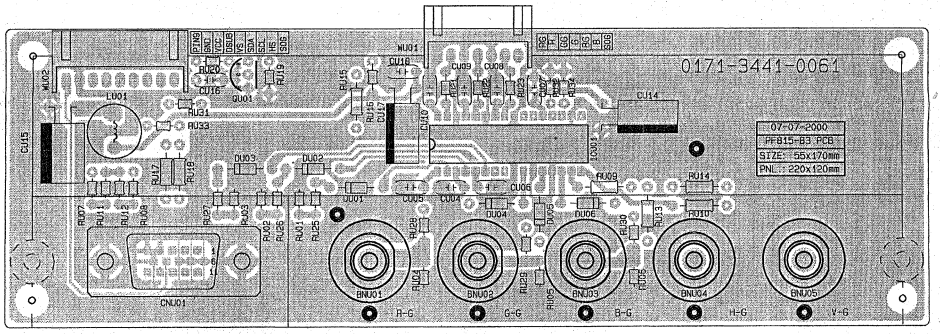


Confidential - Do Not Copy

Confidential - Do Not Copy

0171-3441-0061	SIZE: 55x170mm
	PNL.: 220x170mm
FR4 1/1z 1.6t	DATE: 07-07-00
Q'TY: 100 PNL	REC.: 07-15-00

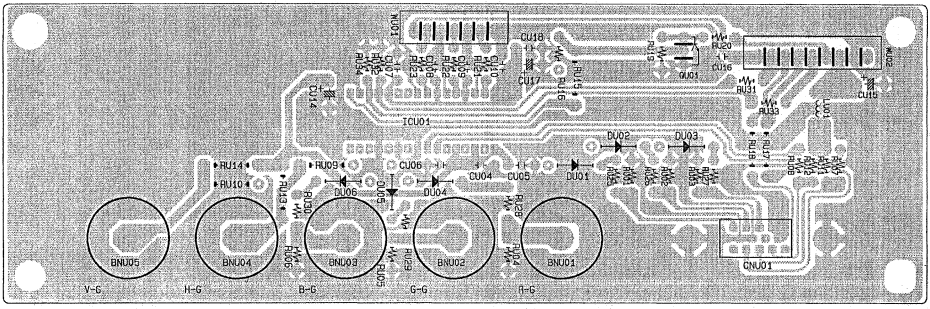
COMP SIDE TEXT



Confidential - Do Not Copy

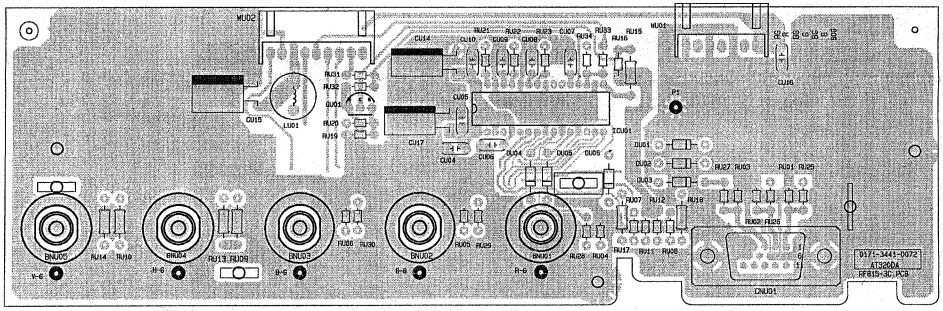
0171-3441-0061	SIZE: 55x170mm
	PNL.: 220x170mm
FR4 1/1z 1.6t	DATE: 07-07-00
Q'TY: 100 PNL	REC.: 07-15-00

SOLDER SIDE TEXT



PCB NO.	0171-3441-0072
	AT320DA
MATERIAL	FR4 | 1/1 z | 1.6 t
Size of PCS	64X200 (mm)
AMOUNT	pcs
	5 (pcs/panel)
	100 panel
Size for PNL	320*200 (mm)
File Name:	RF815-3C .PCB
DATE:	07/28/00

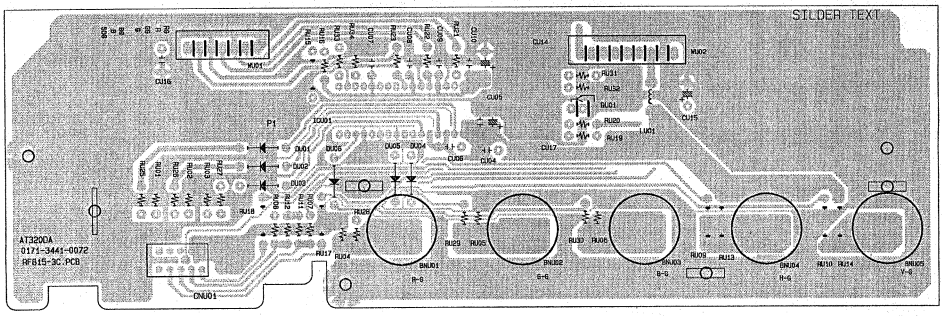
COMPONENT SIDE



2L.SSF
N17C.APR

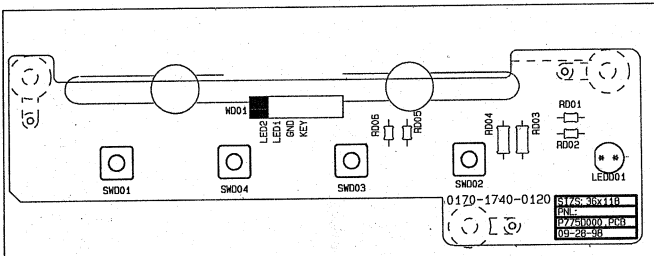
Confidential : Do Not Copy

SOLDER SIDE



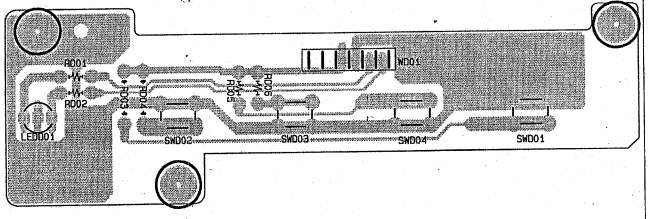
ViewSonic Corporation

Confidential - Do Not Copy



AMTRAN CO.,LTD	MODEL: P775(17"19")
P/N: 0170-1740-0120	V0 1/0z 1.6T
Q'TY: 10 PCS	P775D000.PCB
DATE: 09-28-98	REC DATE: 10-05

COMP SIDE TEXT



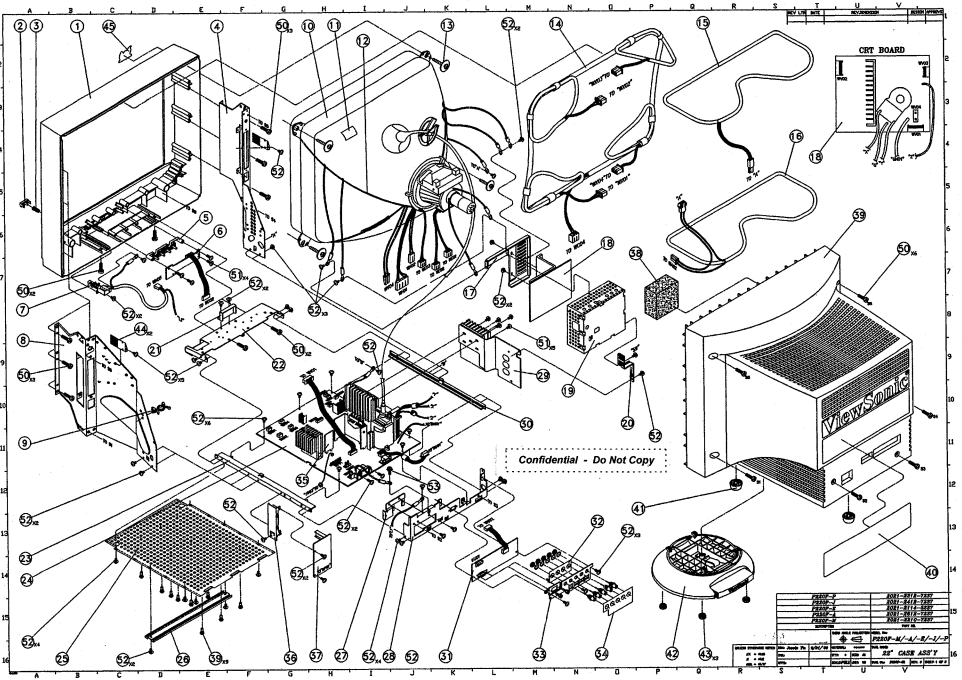
AMTRAN CO.,LTD	MODEL: P775(17"19")
P/N 0170-1740-0120	V0 1/0z 1.6T
Q'TY: 10 PCS	P775D000.PCB
DATE: 09-28-98	REC DATE: 10-05

SOLDER SIDE TEXT

Confidential - Do Not Copy

Chapter 14 Exploded View and Parts List

Confidential – Do Not Copy


CRT BOARD
Confidential - Do Not Copy
ViewSonic
P220F-1
P220F-2
P220F-3
P220F-4
P220F-5
P220F-6
P220F-7
P220F-8
P220F-9
P220F-A
P220F-B
P220F-C
P220F-D
P220F-E
P220F-F
P220F-G
P220F-H
P220F-I
P220F-J
P220F-K
P220F-L
P220F-M
P220F-N
P220F-O
P220F-P
P220F-Q
P220F-R
P220F-S
P220F-T
P220F-U
P220F-V
P220F-W
P220F-X
P220F-Y
P220F-Z
P220F-1
P220F-2
P220F-3
P220F-4
P220F-5
P220F-6
P220F-7
P220F-8
P220F-9
P220F-A
P220F-B
P220F-C
P220F-D
P220F-E
P220F-F
P220F-G
P220F-H
P220F-I
P220F-J
P220F-K
P220F-L
P220F-M
P220F-N
P220F-O
P220F-P
P220F-Q
P220F-R
P220F-S
P220F-T
P220F-U
P220F-V
P220F-W
P220F-X
P220F-Y
P220F-Z
P220F-1
P220F-2
P220F-3
P220F-4
P220F-5
P220F-6
P220F-7
P220F-8
P220F-9
P220F-A
P220F-B
P220F-C
P220F-D
P220F-E
P220F-F
P220F-G
P220F-H
P220F-I
P220F-J
P220F-K
P220F-L
P220F-M
P220F-N
P220F-O
P220F-P
P220F-Q
P220F-R
P220F-S
P220F-T
P220F-U
P220F-V
P220F-W
P220F-X
P220F-Y
P220F-Z

REV LTR	DATE	REV.DIMENSION	DESIGN	APPROVE
1				

ITEM	PART NO.	DESCRIPTION	QTY
1	1701-0104-3010	BEZEL VIEWSONIC P220F G7397 PC+ABS	1
2	1701-0402-2000	POWER KNOB G7397 PF775	1
3	1712-0700-0600	SPRING/PT771/P795	1
4	1712-0100-0032	SUPPORT BRACKET LEFT	1
5	1701-0402-1001	FUNCTION KNOB	1
6	3017-0142-0156	ASS'Y DISPLAY BD PF775	1
7	0220-2020-0261	SW PUSH BOTTON SFDLD11E7U-AA	1
8	1712-0100-0042	SUPPORT BRACKET RIGHT	1
9	1701-1500-0010	WIRE CLIPS NYLON66(UL)	1
10	0210-0220-0155	CRT 22" M51LRY21X62 MIT. .25MM	1
11	1936-1500-0200	FDA WARNING LBL AT396D	1
12	0460-2202-0201	BRAID 0.12/112C 1015#18 1070mm	1
13	1724-3705-3402	SCREW,BPCTW,#5.0*34*WASHER@16	4
14	0333-2200-0171	PURITY COIL 22" 180ohm +CORNER PURITY	1
15	0330-2200-0170	DEGAUSSING 22" 4.5 ohm C10.8*100TS	1
16	0330-2200-0270	DEGAUSSING 22" 4.5 ohm C20.8*100TS	1
17	1712-0300-0030	VIDEO BD SHIELDING	1
18	3021-0112-0151	ASS'Y VIDEO BD AT320DB	1
19	1712-0500-016X	CTR BD SHIELDING-A	1
20	1712-0100-4600	VIDEO BOARD BRACKET	1
21	1712-0100-1160	CRD SUPPORT	1
22	1712-0100-0013	CHASSIS BKT FRONT	1
23	1712-0100-01XX	CHASSIS BKT RIGHT	1
24	3021-0092-0150	ASS'Y MAIN/PWR/CTRL BD P220F	1
25	1712-0500-0172	BOTTOM SHIELDING AT1097FB,AT1099DB	1
26	1712-0100-0080	CHASSIS HOLDER AT398HA	1
27	1712-0100-047X	AC BRACKET	1
28	1712-0100-32XX	CHASSIS BRACKET REAR/AT897D	1
29	1712-0300-0230	HEAT SINK FOR EMI GS815	1
30	1712-0100-0154	CHASSIS BRACKET LEFT	1
31	3021-0022-0118	ASS'Y BNC BD P220F,P225F	1
32	1712-0500-2000	GROUNDING PLATE	1
33	1712-0100-4300	BNC BRACKET AT897/PT771/P795	1
34	1701-0800-1900	BNC PLATE AT897/PT771/P795	1

ITEM	PART NO.	DESCRIPTION	QTY
35	3019-0022-0159	ASS'Y DIODE OPTION BD P95F,P220F FOR DA17	1
36	1712-0100-1490	POWER FACTOR BRACKET	1
37	3021-0022-0157	POWER FACTOR BD	1
38	1947-1500-1400	SPONGE 75Lx75Wx55T	1
39	1701-0201-6030	BACK COVER P220F PC+ABS D-SUB & BNC	1
40	1936-1100-2160	B/C LBL P220F	1
41	1701-1000-0300	PLASTIC FOOT /GL-20HG(50)	2
42	3021-0062-0301	BASE(USB) ASS'Y G7397 PC+ABS	1
43	1701-1000-0200	BASE FOOT 18.8x5.8I	3
44	1712-0600-0011	COPPER CLAW	2
45	1936-1000-0100	V.SONIC LOGO(AL. PLATE)	1
46	1701-1500-0900	SPACER SUPPORTS/FCB-10	9
50	1724-2304-1402	SCREW,BBC,M4.0*14L,Zn-Cc	–
51	1724-2603-1002	SCREW,BTCW,M3.0*10L,Zz-Cc	–
52	1724-2603-0802	SCREW,BTCW,M3.0*8L,Zz-Cc	–
53	1724-3804-0802	SCREW,PBATW,M4.0*8L,Zz-Cc	1

P220F-P	2021-2312-7237
P220F-J	2021-2412-7237
P220F-E	2021-2114-5237
P220F-A	2021-2162-7237
P220F-M	2021-2210-7237
DESCRIPTION	PART NO.

ViewSonic Corporation	THIRD ANGLE PROJECTION	MODEL No.:	P220F-M/-A/-E/-J/-P
		DWG. NAME:	22" CASE ASS'Y
		DWG. No.: P220F-CA	REV. 01 SHEET: 2 OF 2

UNLESS OTHERWISE NOTED	DSN: Jessie Yu	9/21/'00	MATERIAL: ******		
.XX = ±0.10	CHK:		QTY: *	SIZE: A4	
.X = ±0.2	APPD:		SCALE: */*	UNIT: MM	
ANG. = ±1/2°					

Confidential - Do Not Copy

(01.09)